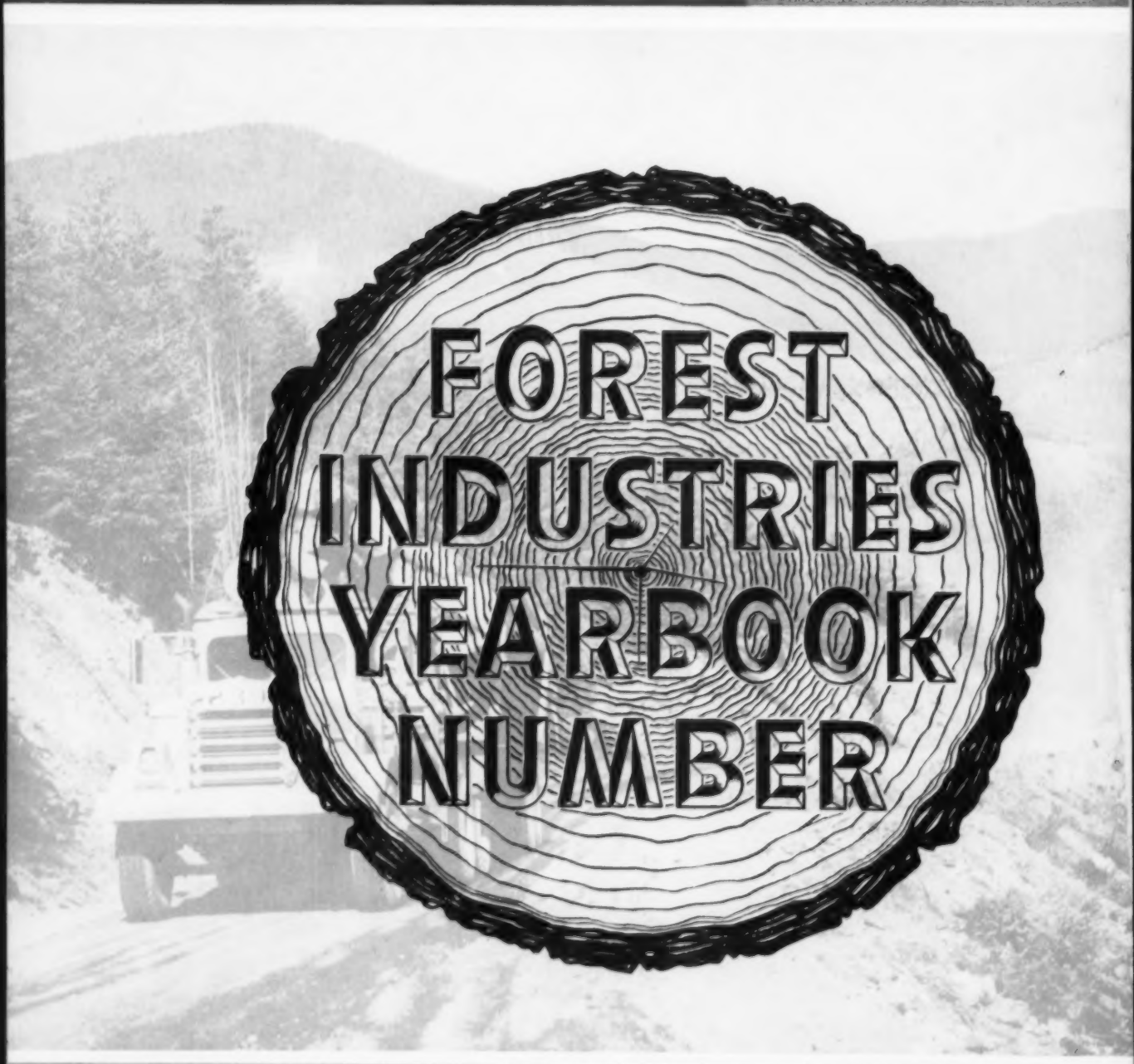
THE Lumberman

MARCH 25, 1955

The Statistical and Reference Issue



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THE Lumberman

The Production Journal of the Forest Products Industries Since 1889

MARCH 25, 1955 VOLUME 82, NUMBER 4

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—THE EDITOR.

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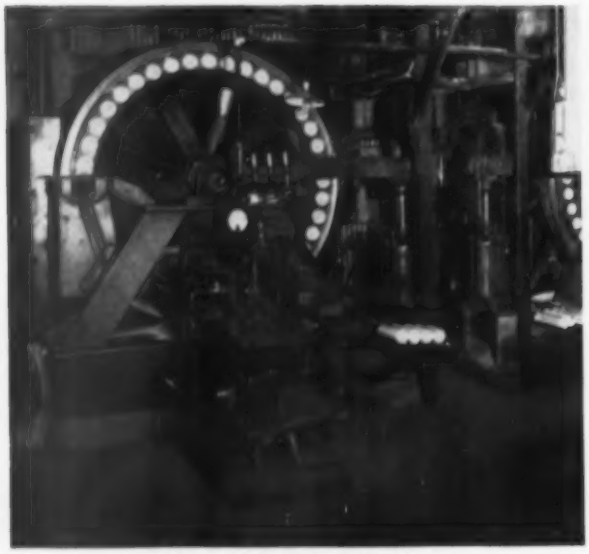

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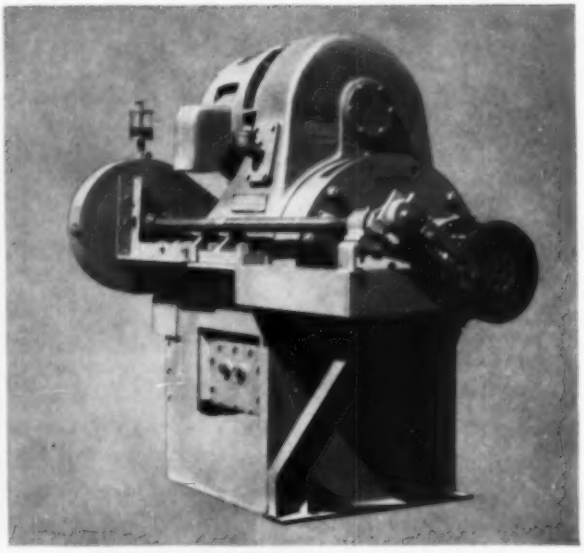

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Caldwell Lumber & Box Co.	Caldwell, Idaho
Capitol Lumber Co.	Salem, Oregon
Co-Op Vegetable Oils, Ltd.	Altona, Manitoba
Cosopre, S. A.	Montevideo, Uruguay
Deer Park Pine Industry, Inc.	Deer Park, Washington
Empresa Agricola Chicama, Ltd.	Casa Grande, Peru
General Box Corp.	Retreat, South Africa
General Box Corp.	Parow, South Africa
Glenco Forest Products, Inc.	Sacramento, California
Great Lakes Lbr. & Shipping Ltd.	Fort William, Ontario
MacMillan & Bloedel, Ltd. (Red Band Div.)	Vancouver, B. C.
MacMillan & Bloedel, Ltd. (Van. Plywd. Div.)	Vancouver, B. C.
Miller Brothers Co.	Johnson City, Tennessee
Missoula Pres-to-logs Company	Missoula, Montana
J. Neils Lumber Co.	Libby, Montana
New Mexico Timber Company	Bernalillo, New Mexico
Nickey Brothers, Inc.	Memphis, Tennessee
Pacific Lumber Company	Scotia, California
Potlatch Forests, Inc.	Lewiston, Idaho
Potlatch Forests, Inc.	Potlatch, Idaho
Potlatch Forests, Inc.	Coeur d'Alene, Idaho
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Tehnopromet	Belgrade, Yugoslavia
Weyerhaeuser Timber Co.	Everett, Washington
Weyerhaeuser Timber Co.	Longview, Washington
Weyerhaeuser Timber Co.	Springfield, Oregon
Weyerhaeuser Timber Co.	Klamath Falls, Oregon
Weyerhaeuser Timber Co.	Newark, New Jersey
White Pine Lumber Co.	Reno, Nevada

PRES-TO-LOGS INSTALLATIONS
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Deer Park Pine Industry	Deer Park, Washington
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Haileybury Lumber Co.	Swastika, Ontario
MacMillan & Bloedel, Ltd. (Red Band Div.)	Vancouver, B. C.
Missoula Pres-to-logs Company	Missoula, Montana
J. Neils Lumber Co.	Libby, Montana
Nickey Brothers, Inc.	Memphis, Tennessee
Potlatch Forests, Inc.	Lewiston, Idaho
D. M. Simpson & Co.	Barbados, B. W. I.
Spokane Pres-to-logs Company	Spokane, Washington
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RUSSELL ELLS, President, California Redwood Association.

G. R. SWIFT, President, Southern Pine Association.

A. R. COPELAND, Pres. No. Hemlock & Hardwood Mfrs. Assn.

Presenting: Some of the Leaders of American and Canadian Trade Associations

U. S. Forest Industries-Directory of Associations

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ADIRONDACK LUMBERMEN'S ASSOCIATION, Fort Edward, N. Y. Pres., N. Nash. Sec., Edward S. Orwig.

ALABAMA FOREST PRODUCTS ASSOCIATION, 209-210 Shepherd Bldg., Box 422, Montgomery. Pres., W. T. Vick. Exec. Vice Pres., E. E. Hale.

AMERICAN FOREST PRODUCTS INDUSTRIES, Inc., 1816 N Street N. W., Washington 6, D. C. Pres., Leonard G. Carpenter. Mng. Dir., Charles A. Gillett. Meeting: Late October or early November.

AMERICAN FORESTRY ASSOCIATION, 919 17 N. W., Washington 6, D. C. Pres., Don P. Johnston. Exec. Dir.-Forester, Lowell Besley. Meeting: Oct. 3-6, 1955, George Washington Hotel, Jacksonville, Fla.

AMERICAN INSTITUTE OF TIMBER CONstruction, 1757 K. Street N. W., Washington 6, D. C. Mr. Frank B. Benzon. Exec. Vice Pres., Frank J. Hanrahan. Annual Meeting: February.

AMERICAN PULPWOOD ASSOCIATION, 220 E. 42nd Street, New York 17. Exec. Sec., W. S. Bromley. Meeting: February.

AMERICAN TURPENTINE FARMERS ASSOciation, 108 W. Hill, Valdosta, Ga. Pres.-Gen. Mgr., Harley Langdale. Meeting: April 19-20, 1955, Valdosta.

AMERICAN WALNUT MANUFACTURERS Association, 666 N. Lake Shore Dr., Chicago 11, Ill. Pres., Robert Hollowell, Jr. Sec.-Mgr., C. H. White. Meeting: May 20-21, French Lick Springs, Ind.

AMERICAN WOOD-PRESERVERS' ASSOCIAtion, 839 17th Street, N. W., Washington 6, D. C. Pres., I. C. Miller. Sec.-Treas., W. A. Penrose. Meeting: April 13-15, 1955, St. Louis, Mo.

APPALACHIAN HARDWOOD MANUFACturers Association, 414 Walnut Street, Cincinnati 2, Ohio. Pres., Norman Warner. Sec.-Treas., C. H. Clendening. Annual Meeting: January.

ARKANSAS WOOD PRODUCTS ASSOCIAtion, 4109 Lee Avenue, Little Rock, Arkansas. Pres., W. E. Tiller. Sec., Mrs. John E. Buxton. Meeting: Latter part of year.

ASSOC. COOPERAGE INDUSTRIES OF America, 408 Olive, St. Louis 2, Mo. Pres., Leslie P. Long. Exec. Dir., F. P. Hankerson. Meeting: May 23-25, Sheraton Hotel, St. Louis.

ASSOCIATION OF NORTHERN CALIFORnia Loggers, Box 552, Arcata, Calif. Pres., R. L. Davis. Sec.-Mgr., Carl Anderson.

CALIFORNIA FOREST PROTECTIVE ASSOciation, 681 Market Street, San Francisco 5, Calif. Pres., James R. Lowe. Sec.-Mgr., W. R. Schofield. Meeting: Jan. 20, 1956.

CALIFORNIA REDWOOD ASSOCIATION, 576 Sacramento Street, San Francisco 11, Calif. Pres., Russell Ells. Gen. Mgr., Philip T. Farnsworth.

CALIFORNIA SAWMILL CLUB, c/o Lee Moffett, Pres., Stockton Box Co., P. O. Box 1731, Stockton, Calif.

CITIZENS FOR CONSERVATION, INC., 1515 Massachusetts Avenue N. W., Washington 5, D. C. Pres., Gerald P. Nye. Sec., Clarence C. Case.

COLUMBIA BASIN LOGGERS—COLUMBIA Basin Sawmills, 602 Portland Trust Bldg., Portland 4, Ore. Pres. (Loggers), Ed Baker. Pres. (Sawmills), G. C. Wilkinson. Mgr. (Both), E. H. Crosby.

COLUMBIA RIVER LOG SCALING & GRADing Bureau, 710 U. S. Natl. Bk. Bldg., Portland, Ore. Pres., E. W. Morley. Mgr., Carl Rickson. Branch Office: W. 7th & Almaden, Eugene, Ore. Henry A. DuPuis, Ass't Mgr.

DOUGLAS FIR EXPORT COMPANY, Yeon Bldg., Portland, Ore. Pres., D. H. Miller. Gen. Mgr., D. C. Moore.

DOUGLAS FIR PLYWOOD ASSOCIATION, 1119 A Street, Tacoma 2, Wash. Pres., S. Eberly Thompson. Mng. Dir., W. E. Difford. Meeting: June 19-21, 1955.

Dry Kiln Clubs

CENTRAL CALIFORNIA DRY KILN CLUB. Pres., R. C. Keeling. Sec.-Treas., Harvey H. Smith. Meeting: 1st Friday of odd months.

E. ORE.-SO. IDAHO. Pres., Ray F. Bennett, Pilot Rock Lumber Co., P. O. Box 39, Pendleton, Ore. Sec.-Treas., W. M. Pierson, Mt. Emily Lbr. Co., LaGrande, Ore.

KEYSTONE KILN DRYING ASSOCIATION. Sec.-Treas., W. T. Nearn, School of Forestry, Pennsylvania State University, State College, Pa.

NEW ENGLAND KILN DRYING ASSOCIAtion. Sec., Harry Rich, U. of Mass., Amherst, Mass.

REDWOOD SEASONING COMM. Chmn., Charlie Carlotti, c/o Willits Redwood Products, Willits, Calif. Sec., Louis Andreani, c/o Union Lumber Co., Fort Bragg, Calif.

SOUTHEASTERN DRY KILN CLUB. Secretary, A. C. Barefoot, N. C. State College, Raleigh, N. C.

SOUTHERN CALIFORNIA LUMBER SEAsoning Association, c/o Robert P. Inglis, Sec.-Treas., 7125 Telegraph Road, Los Angeles 22, Calif. Meetings: 2nd Thursday each month except July and August, at Rodger Young Auditorium, 936 W. Washington Boulevard, Los Angeles 15, Calif.

TEXAS. E. D. Marshall, Sec.-Treas., 541 Humason Ave., Lufkin, Texas.

WASH.-IDA.-MONTANA. Pres., Carl Rasmussen, Potlatch Forest, Inc., Lewiston, Idaho. Sec.-Treas., Doug Rarick, Northwest Timber Co., Gibbs, Idaho. Meeting: April 9, 1955, Lincoln Lumber Co., Lincoln, Wash. October meeting at Pack River Lumber Co., Dover, Idaho.

FINE HARDWOODS ASSOCIATION, 666 Lake Shore Drive, Chicago, Ill. Pres., J. T. Mengel. Exec. Vice Pres., Burdett Green.

FIR DOOR INSTITUTE, Rust Bldg., Tacoma, Wash. Pres., Robert N. Kelly. Mng. Dir., James F. Fowler. Meeting: May.

FOREST FARMERS ASSOCIATION, 66 11th N. E., Box 7284, Station "C", Atlanta, Ga. Pres., J. V. Whitfield. Exec. Dir., J. Walter Myers, Jr. Meeting: March or April, 1956, Charleston, S. C.

FOREST INDUSTRIES RADIO COMMUNIcations, P. O. Box 5153, Eugene, Ore. Chmn., Exec. Comm., Robert W. Olin. Mgr., Elmer L. Surdam. Meeting: To be scheduled.

FOREST PRODUCTS RESEARCH SOCIETY. Box 2010, University Station, Madison 5, Wis. Pres., L. J. Carr. Exec. Sec., Frank J. Rovsek. Meeting: June 2-24, Seattle, Wash.

HARDBOARD ASSOCIATION, 30 N. LaSalle Street, Chicago 2, Ill. Pres., Paul Shoemaker. Exec. Sec., Donald Linville.

HARDWOOD DIMENSION MANUFACTURers Association, 218 Broadway Nat'l Bank Bldg., Nashville 3, Tenn. Pres., George M. Rozzell. Mng. Dir., J. Edgar Kennedy. Meeting: Late January.

INDUSTRIAL FORESTRY ASSOCIATION, 1410 S. W. Morrison Street, Portland, Ore. Chmn., Roy F. Morse. Mng. Dir., W. D. Hagenstein. Meeting: April 12, 1955, Portland.

INTERMOUNTAIN LOGGING CONFERence, Bigfork, Mont. Pres., Robert B.

Forest Industries Associations

L. L. G. BENTLEY, President, B C Lumber Mfrs. Assoc.

HARVEY A. McDIARMID, Pres., Interior B.C. Lbr. Mfrs.

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LESLIE J. CHAFFEE, President, National Wooden Box Assoc.

H. V. WHITTALL, President Red Cedar Shingle Bureau.

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Kennedy. Sec.-Mgr., Charles P. Keim. Meeting: Mar. 28-20, 1955, Spokane Coliseum, Spokane, Wash.

THE LOUISIANA FORESTRY ASSOCIATION. Pres., G. Lock Paret, c/o Edgewood Land & Logging Co., Lake Charles, La. Exec. Sec., J. H. Kitchens, Jr. Meeting: Sept. 15-16, 1955, Bentley Hotel, Alexandria, La.

MAPLE FLOORING MANUFACTURERS Association, 35 E. Wacker Drive, Chicago 1, Ill. Pres., D. S. DeWitt. Sec.-Mgr., L. M. Clady. Meeting: Last week in January.

MAHOGANY ASSOCIATION, INC., 666 N. Lake Shore Drive, Chicago 11, Ill. Pres., Robert P. Thompson. Exec. Sec., George N. Lamb. Meeting: Nov., 1955.

MILLWORK COST BUREAU, 220 S. State, Chicago 4, Ill. Pres., Elmer W. Root. Sec., O. L. Appleton.

MISSISSIPPI FORESTRY ASSOCIATION, 313 Millsaps Building, Jackson. Pres., John W. Squires. Exec. Sec., Frank B. Pittman. Meeting: 2nd week of October (tentative), Edwards Hotel, Jackson.

MONTANA LUMBER MANUFACTURERS Association, Box 394, Kalispell, Mont. Pres., G. A. Miller. Sec., Maurice Boorman. Meetings: Annual, February, and on president's call.

NATIONAL LUMBER MANUFACTURERS Association, 1319 18th Street N. W., Washington 6, D. C. Pres., Judd Greenman. Exec. Vice Pres., Leo V. Bodine. Meeting: Nov. 14-16, 1955, Shoreham Hotel, Washington, D. C. Spring Meeting: May 2-21, 1955, The Cloister, Sea Island, Georgia.

NATIONAL HARDWOOD LUMBER ASSOciation, 59 E. Van Buren, Chicago 5, Ill. Pres., T. M. Millett. Sec.-Mgr., Joseph L. Muller. Meeting: Oct. 11-13, 1955, Hotel Sherman, Chicago.

NATIONAL OAK FLOORING MANUFACturers' Association, 814 Sterick Bldg., Memphis 3, Tenn. Pres., J. G. Smith. Exec. Vice Pres., Henry H. Willins. Meeting: July 6-7, Hotel Peabody, Memphis.

NATIONAL WOODEN BOX ASSOCIATION, Barr Bldg., Washington 6, D. C. Pres., Leslie J. Chaffee. Exec. Vice Pres., C. D. Hudson. Pacific Div.: 55 New Montgomery Street, San Francisco.
Inland Empire Association: Doneen Bldg., Wenatchee, Wash.

(Continued on page 10)

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Forest Industries Associations

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ROY F. MORSE, President, Industrial Forestry Association.

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EMMIT R. ASTON, Pres., Western Forestry & Conservation

L. J. CARR, President, Forest Products Research Society.

The Goal of Every Trade Association: Wider and Wiser Use of Our Wood Supply

NATIONAL WOODEN PALLET MFRS. Ass'n, Barr Building, Washington 6, D. C. Pres., W. R. Jordan. Sec.-Mgr., W. H. Sardo, Jr. Annual Meeting: January.

NATIONAL WOODWORK MANUFACTURers Association, 332 S. Michigan, Chicago, Ill. Pres., L. L. Gibson. Sec.-Mgr., O. C. Lance. Washington, D. C., branch, DuPont Circle Bldg.

NORTHEASTERN LOGGERS' ASSOCIATION, Inc., Old Forge, N. Y. Pres., John R. Curry. Sec., J. E. Davis.

NORTHERN HEMLOCK AND HARDWOOD Manufacturers Association, Oshkosh, Wis. Pres., A. R. Copeland. Sec.-Mgr., Allan S. Haukom.

NORTHERN MONTANA FORESTRY ASSOciation, Kalispell, Mont. Pres., J. F. Lally, Somers, Mont. Sec., M. E. Boorman, Kalispell, Mont.

NORTHERN PINE MANUFACTURERS ASSOciation, 4329 Oakland Ave., Minneapolis, Minn. Pres., J. A. Mathieu. Sec., W. A. Ellinger. Meeting: May 10, 1955 (tentative).

NORTHWEST CHRISTMAS TREE ASSOCIAtion. Pres., Homer Fulton, P. O. Box 429, Olympia, Wash. Vice Pres., Marcus Heckman, Scappoose, Ore. Meeting: Spring—Mar. 18-19, Evergreen Hotel, Vancouver, Wash.; Fall—September.

NORTHWEST WOOD PRODUCTS CLINIC, P. O. Box 291, University Station, Moscow, Idaho. Pres., H. R. Dix. Sec.-Treas., Everett Ellis. Meeting: April 19-20, 1955, Davenport Hotel, Spokane.

NORTHWESTERN CALIFORNIA LUMBERmen's Club, Box 524, Eureka, Calif. Pres., Charles J. Murray. Sec.-Treas., Don M. Oder. Meeting: Every month except June, July, August.

NORTHWESTERN LUMBERMEN'S ASSOciation, 1013 Fourth Avenue South, Minneapolis 4, Minn. Pres., Walter E. Will. Sec., W. H. Badeaux.

OLYMPIC LOGGING CONFERENCE, Port Angeles, Wash. Pres., J. K. Lewis. Sec.-Treas., Walter Fontaine. Meeting: Harrison Hot Springs, B. C., April 14-15, 1955.

OREGON COAST OPERATORS, 175 N. Second Street, Coos Bay, Ore. Pres., Harry C. Fenneman. Sec.-Mgr., John A. Hackenbruck.

OREGON FOREST FIRE ASSOCIATION, U. S. Nat'l Bk. Bldg., Portland, Ore. Sec.-Treas., Carl V. Hersey.

PACIFIC LOGGING CONGRESS, 1222 American Bank Bldg., Portland 5, Ore. Pres., James Sheasgreen, Sec., Carwin Woolley. Annual Meeting: Victoria, B. C., Oct. 12-14.

(Continued on page 12)

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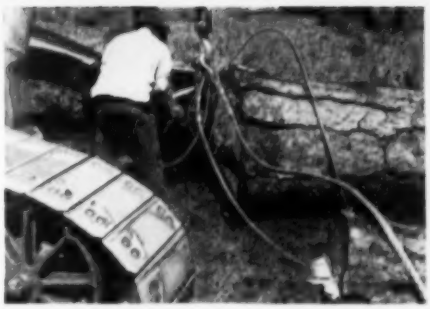
Preforming reduces kinking and makes rope easier to handle. This insures your getting the most work out of a line. Now with Tru-Lay Preformed VHS you save money because this rope lasts much longer. You'll have less time lost for replacement.

When you use ACCO's DUALOC endings on Tru-Lay VHS rope, you have a choker rope that will soon become the standard in the logging industry.



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Forest Industries Associations

Assoc. Directory (Cont'd)

PACIFIC LUMBER INSPECTION BUREAU, Inc., White-Henry-Stuart Bldg., Seattle, Wash. Pres., M. A. Whitman. Sec.-Mgr., Harry W. Murphy. Meeting: April. Branch Offices: Vancouver, B. C.; Tacoma, Aberdeen, Longview, Wash.; Portland, Roseburg, Coos Bay, Ore.; Eureka, Calif.

PACIFIC NORTHWEST LOGGERS ASSOCIATION, White-Henry-Stuart Bldg., Seattle, Wash. Pres., D. A. Kurtz. Sec.-Mgr., E. T. Clark. Meeting: January.

PHILIPPINE MAHOGANY ASSOCIATION, Inc., 111 W. 7th, Los Angeles, Calif. Pres., Walter G. Scrim. Sec.-Treas., George D. Scrim. Meeting: July 10-14, 1955, La Jolla, Calif.

PLYWOOD RESEARCH FOUNDATION, 620 E. 26th Street, Tacoma 4, Wash. Pres. E. W. Daniels. Exec. Dir., H. R. Evans. Meeting: September, Tacoma, Wash.

PONDEROSA PINE WOODWORK, 105 W. Monroe Street, Chicago, Ill. Pres., F. A. Hoerner. Gen. Mgr., R. H. Morris.

PUGET SOUND LOG SCALING & GRADING Bureau, 529 Perkins Bldg., Tacoma 2, Wash. Pres., C. J. Vincent. Mgr., B. J. Demers. Meeting: 2nd Tuesday, June, Seattle.

RAINIER FOREST ASSOCIATION, 949 Henry Bldg., Seattle, Wash. Field Hdqrs., Elbe, Wash. Pres., Bruce E. Looney. Sec.-Treas., C. S. Cowan.

RED CEDAR SHINGLE BUREAU, 5510 White Bldg., Seattle, Wash. Pres., H. V. Whittall. Sec.-Mgr., Virgil Peterson. Meeting: Early December.

REDWOOD REGION CONSERVATION Council, 576 Sacramento Street, San Francisco 11, Calif. Sec., Ben S. Allen.

REDWOOD REGION LOGGING CONFERence, 102 The Uplands, Berkeley 5, Calif. Pres., Larry T. Marshall. Sec.-Mgr., Emanuel Fritz. Meeting: Eureka, Calif., May 20-21.

ROOFER MANUFACTURERS' ASSOCIATION, Box 1373, Columbus, Ga. Pres., Raymond C. Cook. Sec.-Treas., B. Ed Johnson.

ROOSEVELT LAKE LOG OWNERS ASSOCIAtion, W. 721 Second Ave., Spokane 4, Wash. Pres., M. Gale Beals. Sec.-Mgr., George J. Tichy.

SIERRA-CASCADE LOGGING CONFERENCE, 3535 Las Pasas Way, Sacramento 19, Calif. Pres., L. D. Stephens. Sec.-Treas., Jack Berry. Annual Meeting: February.

SOCIETY OF AMERICAN FORESTERS, 17 & Pennsylvania N. W., Mills Bldg., Washington, D. C. Pres., Elwood L. Demmon. Exec. Sec., Henry Clepper. Meeting: Oct. 16-19, 1955, Multnomah Hotel, Portland, Ore.

SOUTHERN CYPRESS MANUFACTURERS Assoc., 2133 Kings Avenue, Jacksonville, Fla., P. O. Box 5772. Pres., Edward C. Roe. Sec.-Mgr., J. A. Prestridge. Meeting: Tentatively June 2, Ponte Vedra.

SOUTHERN FURNITURE MANUFACTURers Association, High Point, N. C. Pres., T. N. Barbour. Exec. Vice Pres., James T. Ryan.

SOUTHERN HARDWOOD PRODUCERS, Inc., Sterick Bldg., Memphis 3, Tenn. Pres., Mark Townsend. Sec.-Mgr., L. J. Heatherly. Meeting: Mar. 10-11, 1955, New Orleans, La.

SOUTHERN HARDWOOD TRAFFIC ASSOciation, Commerce Title Bldg., Memphis 1, Tenn. (Dist. Offices: Louisville, New Orleans, Helena, Ark.; Knoxville.) Sec.-Mgr., C. A. New. Meeting: Late March.

SOUTHERN OREGON CONSERVATION & Tree Farm Association, Goldy Bldg., Medford, Ore. Pres., Glenn Hunter. Sec.-Mgr., Lewis L. Simpson. Meeting: Early spring.

SOUTHERN PINE ASSOCIATION, National Bank of Commerce Bldg., New Orleans, La. Pres., G. R. Swift. Sec.-Mgr., S. P. Deas. Meeting: April 4-6, 1955, New Orleans.

SOUTHERN PINE INSPECTION BUREAU, Canal Bldg., New Orleans 4, La. Pres., B. A. Mayhew. Sec.-Mgr., A. S. Boisfontaine. Meeting: April 5, 1955, New Orleans.

SOUTHERN PULPWOOD CONSERVATION Association, 1224 Peachtree Street N. E., Atlanta 5, Ga. Pres., K. S. Trowbridge. Forester and Gen. Mgr., H. J. Malsberger.

SOUTHERN WOODWORK ASSOCIATION, 1050 Ponce de Leon Avenue N. E., Atlanta, Ga. Pres., Herbert J. Bremermann. Counselor, Joseph R. Rowell. Meeting: Spring—May 4-5, 1955, Hotel Briarcliff, Atlanta; Fall—November.

TACOMA LUMBERMEN'S CLUB, P. O. Box 757, Tacoma 1, Wash. Pres., George Williams. Sec.-Treas., Don Hartman. Meetings: Last Friday of each month.

TEXAS FORESTRY ASSOCIATION, P. O. Box 1032, Lufkin, Texas. Pres., S. W. Henderson, Jr. Exec. Sec., Bruce Stewart. Meeting: Usually December in Lufkin.

TEXAS LUMBER MANUFACTURERS ASSOciation, Box 58, Lufkin, Texas. Pres., Clyde Thompson. Sec.-Treas., A. E. Cadlipp.

TIMBER PRODUCERS ASSOCIATION, 516 Lyceum Bldg., Duluth 2, Minn. Exec. Sec., John V. Hoene.

TIMBER PRODUCTS MANUFACTURERS ASsociation, 721 W. Second, Spokane 4, Wash. Pres., Harry G. Preston. Mgr., George J. Tichy. Branch Office: S. 801

(Continued on page 14)

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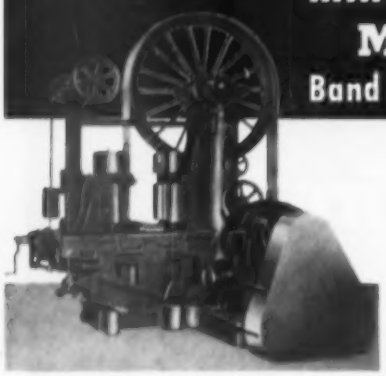

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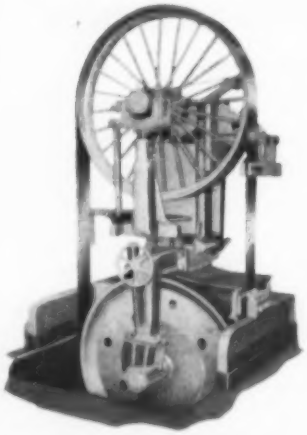

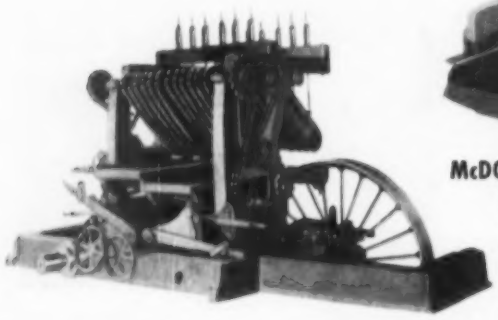

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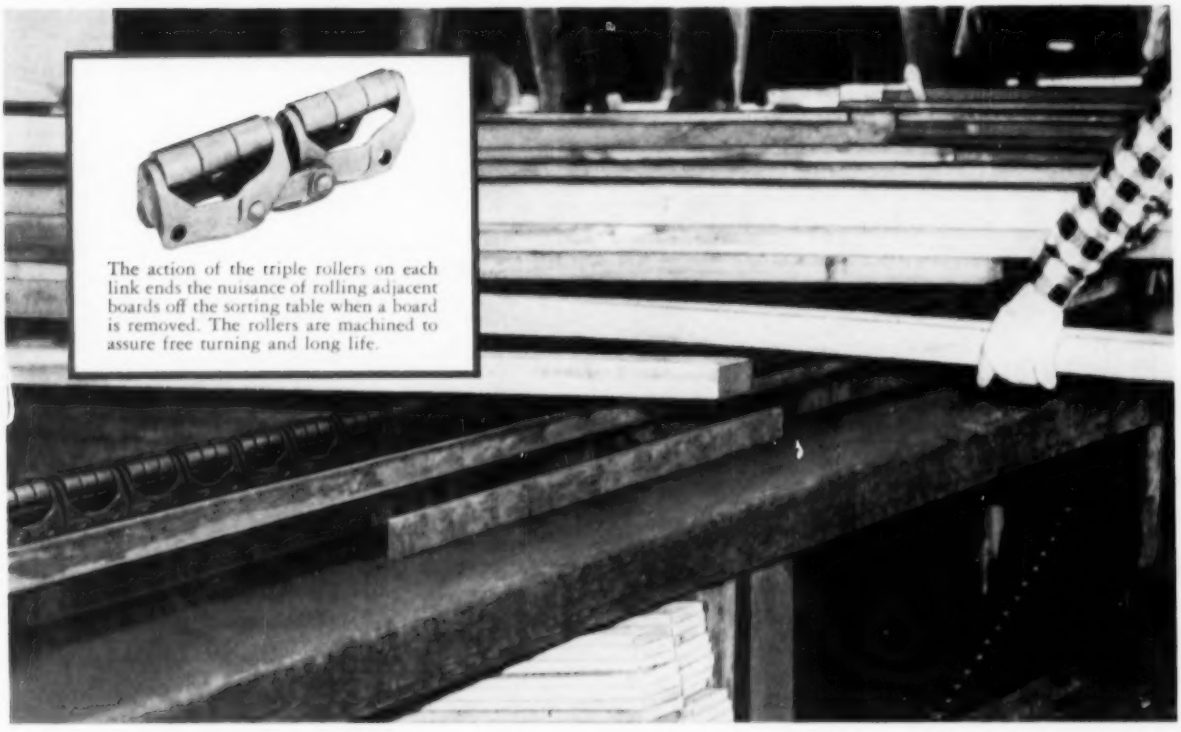

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Forest Industries Associations

Assoc. Directory (Cont'd)

5th, Missoula, Mont. D. L. Bright, Field Rep.

U. S. RED CEDAR SHINGLE INDUSTRY, 6523 White Bldg., Seattle 1, Wash. Pres., R. D. Mackie. Sec.-Mgr., D. M. Williams. Meeting: February.

WASHINGTON FOREST FIRE ASSOCIATION, 949 Henry Bldg., Seattle, Wash. Pres., Martin N. Deggeller. Mgr., C. S. Cowan. Meeting: April 5, 1955.

WASHINGTON STATE FORESTRY CONFERence, 949 Henry Bldg., Seattle, Wash. Pres., Dean Gordon Marckworth. Sec.-Treas., C. S. Cowan. Meeting: Nov. 4, 1955, Seattle.

WEST COAST LUMBERMEN'S ASSOCIAtion, 1410 S. W. Morrison Street, Portland, Ore. Branch Offices: White-Henry-Stuart Bldg., Seattle, Wash.; 170 Eleventh Avenue E., Eugene, Ore.; 23 Goldy Bldg., Medford, Ore.; Room 400, Statler Center, Los Angeles; 1625 Eye Street N. W., Washington 6, D. C. Pres., G. E. Karlen. Exec. Vice Pres., H. V. Simpson. Meeting: Mar. 16-17, 1955.

WESTERN FOREST INDUSTRIES ASSOCIAtion, 316 Henry Bldg., Portland 4, Ore. Pres., Ray C. Swanson. Exec. Vice Pres., R. T. Titus. 1955 Meeting: Vancouver, B. C., Mar. 10-12.

WESTERN FORESTRY & CONSERVATION Association, U. S. Nat'l Bk. Bldg., Portland, Ore. Pres., Emmit R. Aston. Forest Counsel, Stuart Moir. Meeting: Portland, Ore., Dec. 7-9, 1955, Multnomah Hotel.

WESTERN PINE ASSOCIATION, Yeon Bldg., Portland 4, Ore. Pres., A. L. Helmer. Sec.-Mgr., S. V. Fullaway, Jr. Meeting: March. Research Laboratory—Carl Rasmussen, in charge. 7733 S. E. 13th Avenue, Portland 2, Ore.

WESTERN RED CEDAR LUMBER ASSOCIAtion, 4403 White-Henry-Stuart Bldg., Seattle 1, Wash. Sec.-Mgr., Arthur I. Ellsworth.

WESTERN RED & NORTHERN WHITE CEdar Association, 731 Lumber Exchange Bldg., Minneapolis 1, Minn. and c/o W. H. Jones, Peyton Bldg., Spokane, Wash.

WESTERN WOOD-PRESERVING OPERAtors' Association. Pres., Ralph Dreitzler, 1118 Fourth Avenue., Seattle 1, Wash.

WILLAMETTE VALLEY LOGGING CONFERENCE, Osburn Hotel, Eugene, Ore. Pres., Dave Burwell. Sec., A. D. McReynolds. Meeting: Eugene, Ore. April 28-30.

THE WOODEN BOX INSTITUTE, 55 New Montgomery, San Francisco, Calif. Pres., C. O. Thompson.

WOODWORK INSTITUTE OF CALIFORNIA, Mgr.-Dir., Russell Bjorn, 681 Market Street, San Francisco 5, Calif. Pres., Robert Hogan, Hogan Wholesale Buildings Materials Co., 255 2nd Street, Oakland, Calif.

U. S. Retail & Wholesale Lumber Trade Organizations

ARKANSAS ASSOCIATION OF LUMBER Dealers, 727 Pyramid Life Bldg., Little Rock, Ark. Pres., Robert Stair. Sec., E. DeMatt Henderson.

CAROLINA-VIRGINIA LUMBERMEN'S Club, P. O. Box 1152, Greensboro, N. C.

NATIONAL-AMERICAN WHOLESALE LUMber Association, 41 E. 42nd Street, New York 17, N. Y. Pres., Roy M. Janin. Sec.-Directing Mgr., Sid L. Darling. Western Mgr., Paul C. Stevens, Yeon Bldg., Portland 4, Ore. Meeting: May 3-4, The Greenbrier, White Sulphur Springs, W. V.

NATIONAL ASSOCIATION OF COMMISsion Lumber Salesmen, Wall Bldg., 3903 Olive Street, St. Louis 8, Mo. Pres., James Grant, Jr. Sec.-Mgr., G. R. Gloor.

NATIONAL RETAIL LUMBER DEALERS ASsociation, Suite 302, Ring Bldg., 18th & M N. W., Washington 6, D. C. Pres., Watson Malone III. Exec. Vice Pres., H. R. Northup. Meetings: Spring—May 15-20, 1955, Washington, D. C.; Annual—Tentative date Oct. 8-10, 1955, Hotel Cleveland, O.; Exposition—Oct. 11-16, 1955, Cleveland Auditorium, Cleveland, O.

NATIONAL RETAIL LUMBERMEN'S COUNcil of Canada, 1490 W. Broadway, Vancouver, B. C. Pres., L. C. Thomas. Sec.-Mgr., W. J. Andrew. Meeting: Sept., 1955.

NEW ENGLAND WHOLESALE LUMBER ASsociation. Exec. Sec., Louis S. Davis, 419 Boylston Street, Boston 16, Mass.

NORTHERN SASH & DOOR JOBBERS ASsociation, 30 N. LaSalle Street, Chicago 2, Ill. Pres., Clarence M. Kimball. Sec., Carl W. Nagle. Meeting: Spring—May 12-14, Medford, Pa.; Fall—Oct. 3-5, Chicago, Ill.

OKLAHOMA LUMBERMEN'S ASSOCIAtion, Leonhardt Bldg., Oklahoma City, Okla. Pres., Alfred Leonhardt. Sec.-Mgr., W. M. Morgan. Meeting: Oct. 20-21, 1955, Oklahoma City, Okla.

SOUTHEASTERN LUMBERMEN'S CLUB, P. O. Box 448, Jacksonville 1, Fla. Pres., N. B. Reynolds. Sec., Ethalind McCarthy. Meets several times during year.

SOUTHERN SASH & DOOR JOBBERS ASSOciation, 920 Sterick Building, Memphis, Tenn. Pres., James M. Green. Sec.-Treas., Thomas Birchfield. Meeting: June 13-15, Peabody Hotel, Memphis; (tentative) Nov. 14-16, The Greenbrier, White Sulphur Springs, W. V.

WESTERN RETAIL LUMBERMAN'S ASSOC., 331 1st W., Seattle, Wash. Pres. W. W. McCready. Mng. Dir., W. C. Bell.

Canadian Forest Industries Directory of Associations

BRITISH COLUMBIA LUMBER MANUFACturers Ass'n, 550 Burrard Street, Vancouver 1, B. C. Pres., L. L. G. Bentley. Exec. Vice Pres., L. R. Andrews. Sec., N. R. W. Dusting. Annual Meeting: March.

BRITISH COLUMBIA LOGGERS' ASSOCIAtion, Room 401, 550 Burrard Street, Vancouver 1, B. C. Bd. Chmn., J. S. Johannson. Sec.-Mgr., John N. Burke. Annual Meeting: March.

B. C. LUMBER SURVEY LTD., 1490 W. Broadway, Vancouver, B. C. Pres., A. W. Dixon. Sec.-Mgr., W. J. Andrew. Meeting: Mid-January, 1956.

B. C. COAST WOODS TRADE EXTENSION Bureau. Mgr., Cleve Edgett. 550 Burrard Street, Vancouver, B. C.

CANADIAN INSTITUTE OF FORESTRY, 10 Manor Road West, Toronto 7, Ont. Sec., Jas. D. Coats.

CANADIAN INSTITUTE OF TIMBER CONstruction, 160 Laurier Avenue W., Ottawa 4, Ont. Pres., G. E. Kernohan, Northern Wood Preservers, Toronto, Ont. Exec. Vice Pres., R. F. DeGrace.

CANADIAN LUMBERMEN'S ASSOCIATION, Timberhouse, 27 Goulbourn Avenue, Ottawa, Canada. Pres., R. Halliday. Sec.-Mgr., W. J. LeClair.

CANADIAN FORESTRY ASSOCIATION, B. C. Division. Chmn., M. J. Foley. Sec.-Mgr., William Myring. 550 Burrard Street, Vancouver, B. C.

CANADIAN PULP & PAPER ASSOCIATION, Western Division. Chmn., M. J. Foley. Sec.-Mgr., Leander Manley. 550 Burrard Street, Vancouver, B. C.

CANADIAN PULP AND PAPER ASSOCIAtion, Woodlands Section, 2280 Sun Life Bldg., Montreal 2. Chmn., J. H. Merrill. Mgr., W. A. E. Pepler. Meeting: Mar. 23-25.

CONSOLIDATED RED CEDAR SHINGLE ASsociation of B. C., 202 Forest Industries Bldg., 550 Burrard Street, Vancouver 1, B. C.

EASTERN ONTARIO RETAIL LUMBER Dealers' Association. Sec.-Treas., A. Moore Campbell, Arnprior, Ont.

FOREST PRODUCTS SAFETY CONFERENCE, c/o C. R. Rustemeyer, Chmn., Canadian Forest Products Ltd., Vancouver, B. C. Meeting: June 2-3, 1955, Victoria, B. C.

INTERIOR BOX MANUFACTURERS ASSOciation, 608 Marine Bldg., Vancouver, B. C. Chmn., H. B. Simpson. Sec., L. J. A. Rees.

INTERIOR LUMBER MANUFACTURERS ASsociation, 608 Marine Bldg., Vancouver, B. C. Pres., Harvey A. McDiarmid. Sec.-Mgr., L. J. A. Rees. Meeting: Spring, 1955.

NORTHERN INTERIOR LUMBERMEN'S ASsociation, Suite 305, 1705 Third Avenue, Prince George, B. C. Pres., R. W. Hilton. Sec.-Mgr., R. J. Gallagher. Convention: May 25-27, 1955.

NORTHWESTERN ONTARIO TIMBER OPerators' Association, Room 3, Tomlinson Bldg., Port Arthur, Ont. Pres., H. H. Styffe. Mgr., T. S. Jones. Meeting: Jan. 13, 1956.

ONTARIO FOREST INDUSTRIES ASSOCIAtion, 159 Bay Street, Toronto, Ontario. Pres., C. B. Davis. Mgr., C. R. Mills. Meeting: Jan. 24, 1956. Branch: Port Arthur, Ont.

PLYWOOD MANUFACTURERS ASSOCIAtion of B. C., 303-550 Burrard, Vancouver 1, B. C. Pres., I. S. Johannson. Mgr., J. B. Armstrong. Meeting: Probably March.

QUEBEC FOREST INDUSTRIES ASSOCIAtion, 65 St. Anne Street, Quebec. Pres., J. V. Perrin. Mgr., Edgar Porter. Meeting: Jan. 25, 1956.

THE QUEBEC LUMBER MANUFACTURERS Association, 27 Rue Buade, Quebec 4, P. Q. Mgr., Maurice Gerin. Pres., Raoul Guérette. Annual Meeting: May 20-21, 1955, Quebec City, Canada.

TRUCK LOGGERS ASSOCIATION OF B. C., 425 Howe Street, Vancouver, B. C. Pres., Jack Ellis Fletcher. Exec. Mgr., Tom Novis.

VANCOUVER MILLWORK MANUFACTURers Association, 3643 Kingsway, Vancouver 16. Pres., George Clarke. Sec.-Mgr., R. N. Poole.

WHOLESALE LUMBER DEALERS' ASSOCIAtion, Inc., 2487 Bloor St., Toronto, Ont. Sec.-Treas., G. Millward. Meetings: 3rd Monday, Sept. to May, Royal York Hotel.

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Complete '54 Index

Complete Editorial Index

For The Lumberman Jan.-Dec., 1954 Vol. 81

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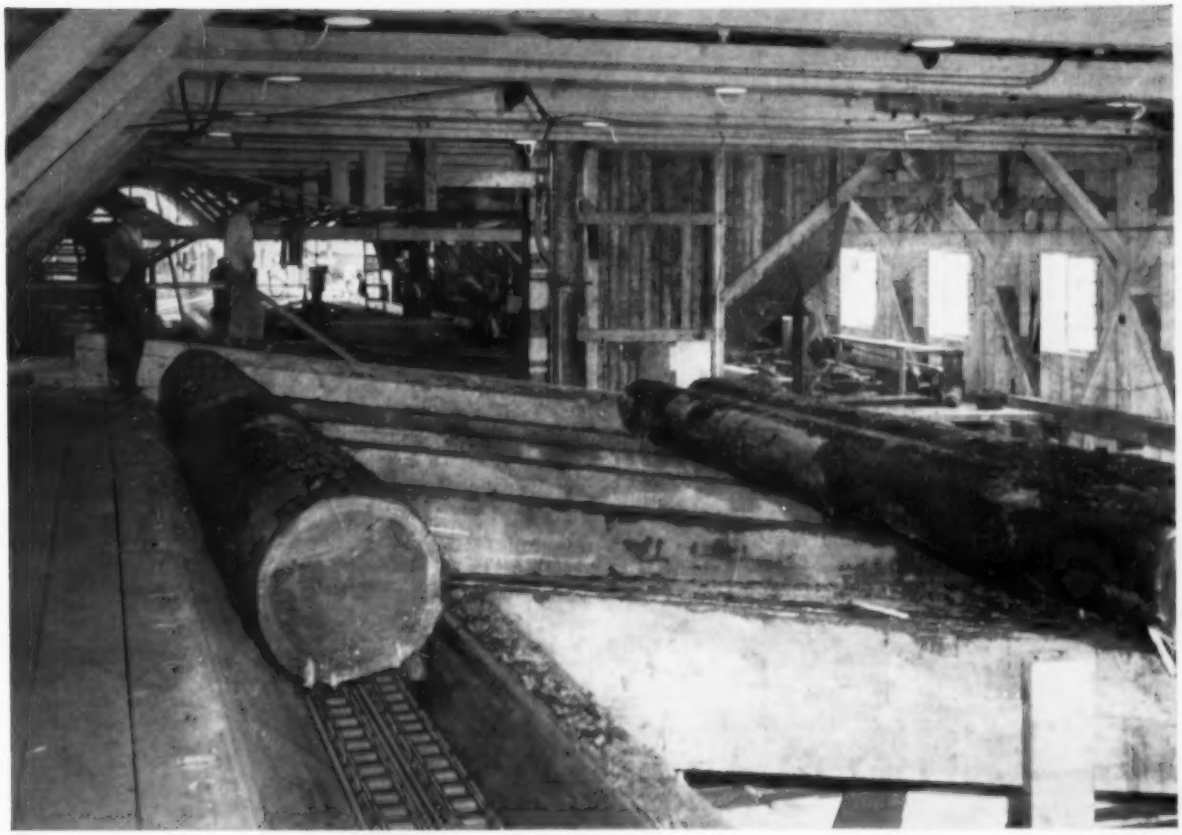

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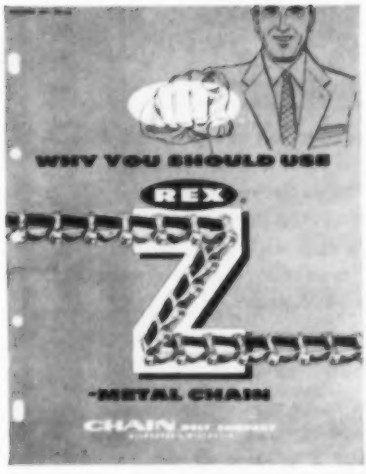

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Meet the

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by GUNDERSON

Tough, agile and always on the job, the Pondozer seems to have "know-how" for getting the logs where they belong built-right-in. Like having two extra men on the job . . . sorts logs and puts 'em away with ease. Plenty of power . . . highly manueverable, reinforced at "working points" for years of punishment.

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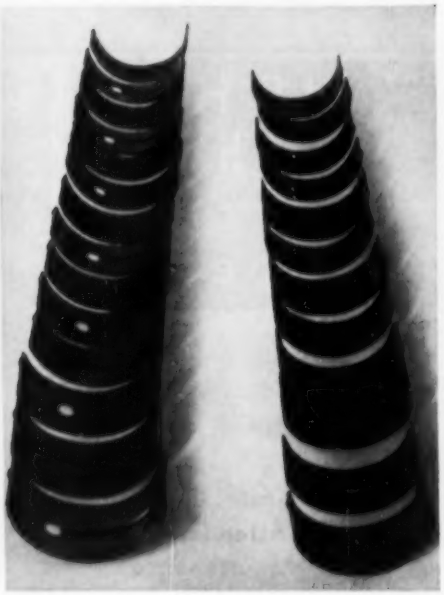
Trucks work 4 years with no lost bearings on tough, high-mountain logging job!



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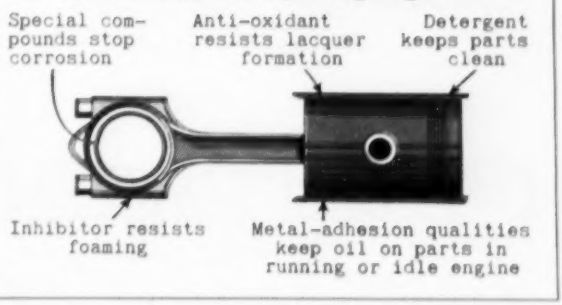
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Detergent keeps parts clean
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STANDARD OIL COMPANY OF CALIFORNIA

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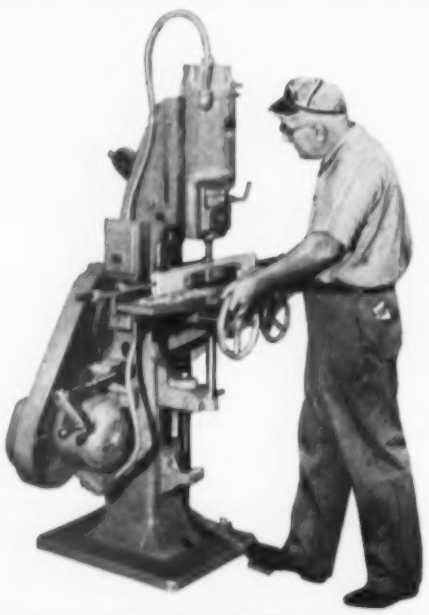

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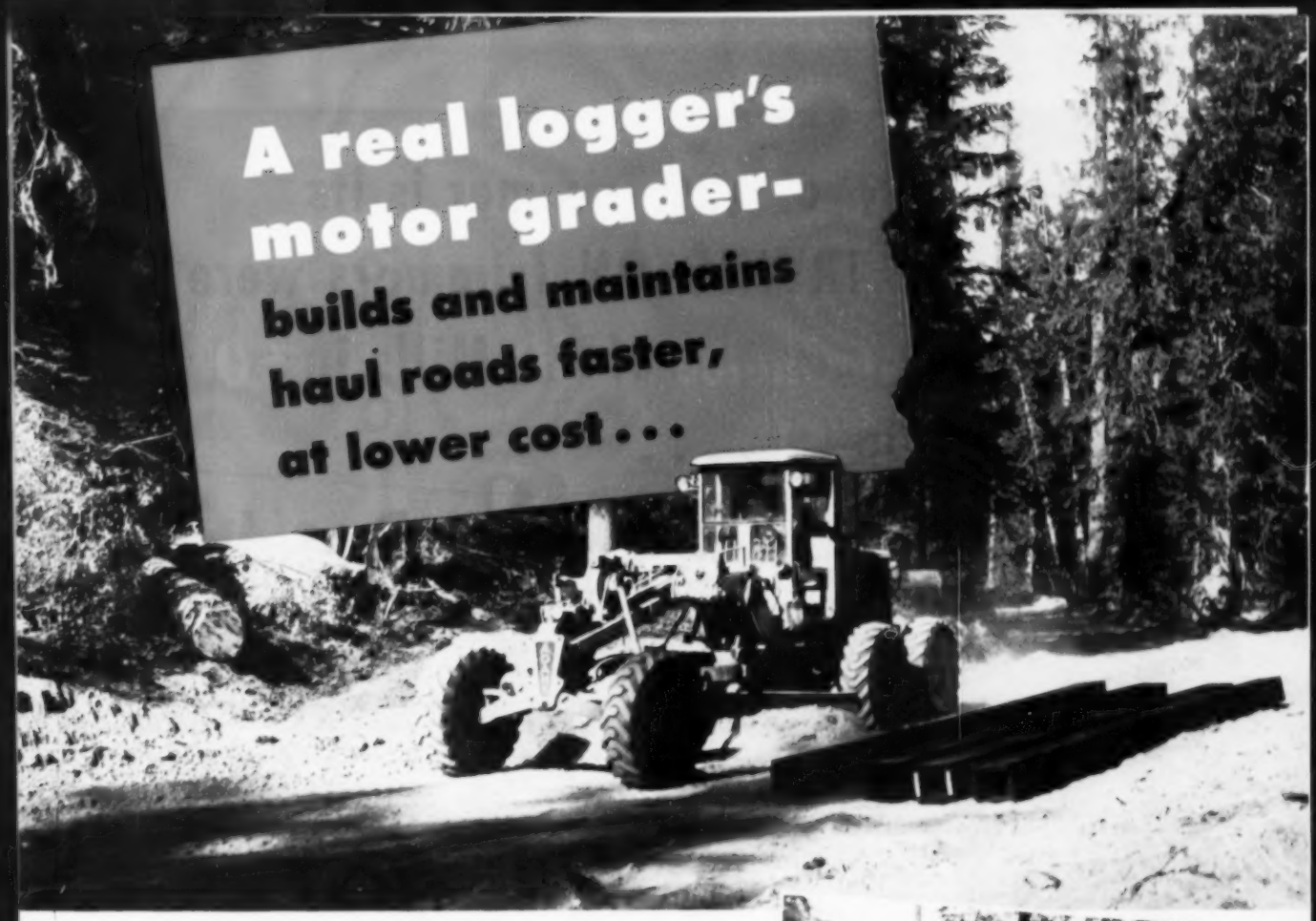

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Top Photo: A 115 hp Adams maintaining logging roads for a lumber company in Montana.

Lower Photo: This 115 hp Adams is building roads through rough mountain country for a lumber company in Oregon.

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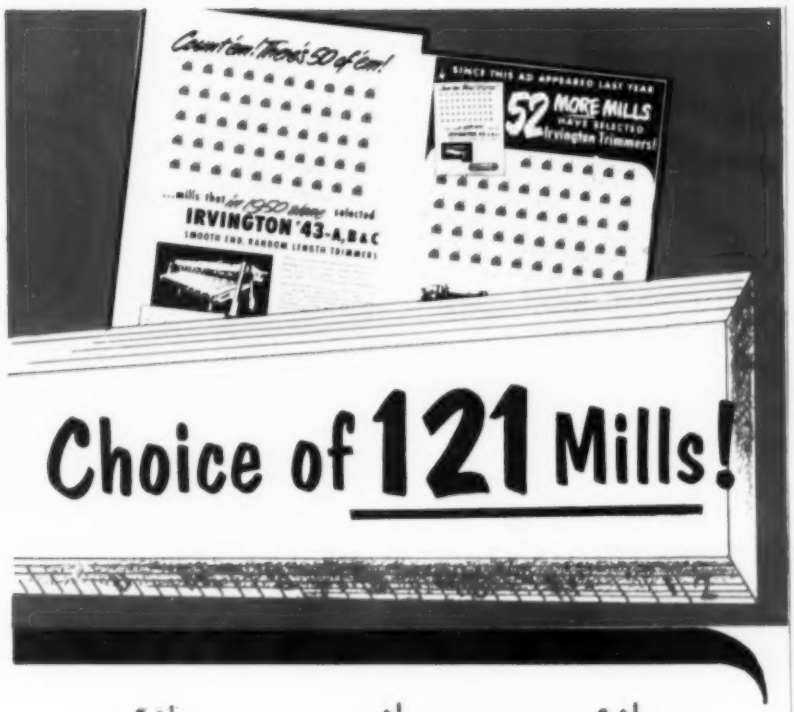
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"Keep Green" Programs Continue to Keep Public Alert to Fire Danger

SOMETIMES YOU HAVE to look back to see how far you've come. It's that way with the forest industries and their Keep Green fire prevention campaign.

Today the Keep Green slogan is a household phrase in most sections of America. Keep Green signs addressed to motorists, sportsmen, loggers and the general public are common place in most forested areas. In some states —Idaho and Washington for instance —Keep Green messages are even stencilled on the highway pavement at intervals along most roads.

This program in public education has paid off. Fire losses in 1953 were the lowest in the nation's history. Despite seasonal ups and downs resulting from weather conditions, there has been a general and steady decline in fire losses all around the country. All but a handful of states now provide organized protection for all woodlands within their borders. Thirty-four states have active Keep Green programs underway. The slogan, along with industry-prepared educational materials—motion picture films, leaflets, posters and radio programs—are available everywhere.

In all this the forest industries have shouldered increasing responsibilities. In South Carolina, for instance, a forest industry committee sponsors the Keep Green program. Under industry's leadership last year South Carolina's women's clubs were encouraged to put their sewing machines to work making fire danger flags and Keep South Carolina Green banners.

Number of Degrees Granted By U. S. Forestry Schools For the Years 1900-1954

Years	Undergraduate degrees	Master's degrees	Doctor's degrees
1900	1	..	
1901	5	..	
1902	2	9	
1903	3	14	
1904	9	29	
1905	9	34	
1906	24	24	
1907	19	27	
1908	31	35	
1909	47	44	
1910	61	48	
1911	100	61	
1912	122	54	
1913	136	37	
1914	151	42	
1915	124	35	
1916	151	36	
1917	160	27	
1918	65	10	
1919	53	6	
1920	160	25	
1921	126	26	
1922	141	44	
1923	217	31	
1924	215	43	
1925	280	44	
1926	259	58	
1927	263	50	
1928	302	64	
1929	291	54	
1930	308	69	
1931	394	97	34
1932	380	78	7
1933	355	65	6
1934	337	47	6
1935	423	58	8
1936	502	67	9
1937	803	75	7
1938	980	95	5
1939	1,102	112	8
1940	1,072	105	9
1941	834	117	12
1942	654	76	13
1943	446	28	6
1944	106	12	3
1945	51	18	7
1946	192	65	8
1947	553	223	7
1948	918	222	16
1949	1,443	205	12
1950	2,321	275	29
1951	1,564	267	21
1952	1,267	226	25
1953	1,045	151	37
1954	916	186	34
Total	22,493	3950	329

[1]Total doctor's degrees granted prior to 1932
Source: Society of American Foresters.

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. . . and all the famous Trailmobile quality features!

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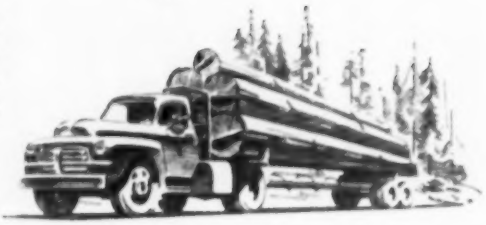
The Trend is to **TRAILMOBILE**

Eaton 2-Speed Axles are Smashing Performance Records!

Actual performance records covering vehicles in every type of service — on the highway and off — prove that trucks equipped with Eaton 2-Speed Axles haul more, quicker, at lower cost. These trucks spend more hours on the job—less time in the shop. Operating and maintenance costs reveal definite savings on these important items. Owners' records show that Eaton 2-Speed Axle trucks deliver extra thousands of trouble-free miles, are worth more when traded in.

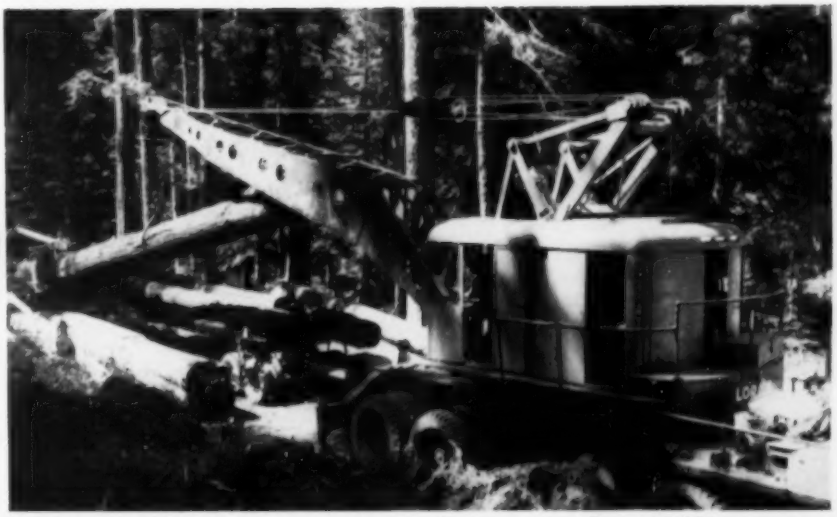


More than Two Million Eaton Axles in Trucks Today!
Ask your truck dealer for complete information.

EATON — AXLE DIVISION — MANUFACTURING COMPANY
CLEVELAND, OHIO

PRODUCTS: Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater-Defroster Units • Snap Rings Springtites • Spring Washers • Cold Drawn Steel • Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

Far NORTH



In Oregon, Walter E. Koch logs with a Waukesha-powered Thew MC-820 log loader. *(Below)* In Alabama, W. T. Smith Lumber Co. use Waukesha-powered Link-Belt HC51.

...to Deep SOUTH

WAUKESHA

LOGGING ENGINES

273

Power-packed, for reliability in handling all kinds of timber. Yarding, loading, trucking—these Waukesha Engines with their fast, smooth power are making modern logging records, one after another. Many exclusive *proven* design advantages afford clean burning, lively acceleration, tremendous reserve power, high fuel economy with low maintenance. Diesel, gasoline, LPG—10 to 1135 hp. Send for Bulletins.

WAUKESHA MOTOR COMPANY

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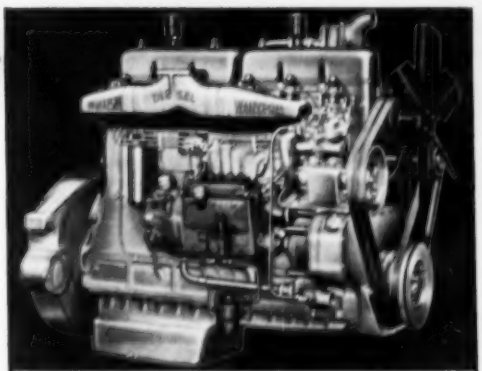
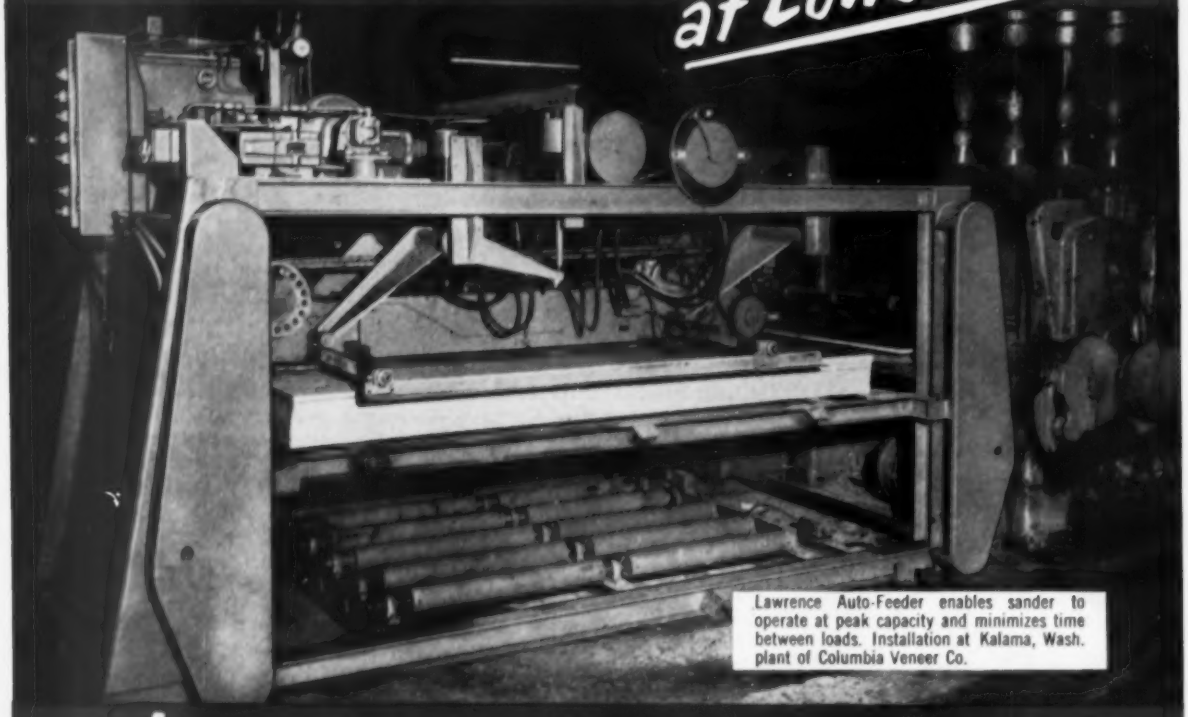


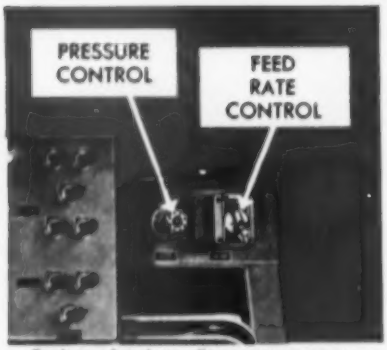
148-DKB High-Duty Diesel, 5¼-in. bore x 6-in stroke, 779 cu. in. displacement, 200 max. hp at 2100 rpm.

More PLYWOOD at Lower Cost



Lawrence Auto-Feeder enables sander to operate at peak capacity and minimizes time between loads. Installation at Kalama, Wash. plant of Columbia Veneer Co.

with LAWRENCE AUTO-FEEDER using VICKERS HYDRAULICS



Feed speed and crowding pressure are predetermined and easily adjustable . . . so that panels are butted just before entering sander.

Equipped with Vickers Hydraulics for lifting the packages of plywood and automatically squaring and feeding the individual panels into the sander, this Lawrence Auto-Feeder keeps plywood panels moving through the drum sander at top capacity.

This automatic feeder has also made substantial savings in feeding a skinner saw. It is equally applicable in particle and hardboard plants . . . in fact on any operation using automatic de-stacking and feeding.

The use of Vickers Hydraulics is growing rapidly in the logging, lumber and plywood industries because of these important advantages: high speed operation, exceptional versatility, built-in overload protection, flexibility of control, simplicity of installation, and low maintenance. For additional information about the many benefits you get from Vickers Hydraulics, write the nearest office.

VICKERS Incorporated
DIVISION OF THE SPERRY CORPORATION
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West Coast Plant & Office
7360 E. Imperial Highway • El Segundo, Calif.
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STANDARD VICKERS UNITS USED ON LAWRENCE AUTO-FEEDER

Vane Type Double Pump

Solenoid Controlled Pilot-Operated Four-Way Valve

Vane Type Motor

Flow Control Valve

Solenoid Operated Four-Way Valve

In-Line Check Valve

ENGINEERS AND BUILDERS OF OIL HYDRAULIC EQUIPMENT SINCE 1921

now—the logs are lighter with MUSCLES OF STEEL

Gone are the days when muscles of man and beast were the only means of loading and hauling big timber out of the woods. Supplying present-day lumber needs is a job that would lick ten thousand Samsons.

It's a job that demands *muscles of steel*—rugged wire rope that lifts and pulls the heaviest logs with strength to spare.

We of Wickwire play a big part in furnishing these *muscles of steel* to American industry. Wherever wire rope is used—timbering, drilling, construction, mining, fishing, materials handling—there also you'll find Wickwire Rope helping to do a better, more efficient job. That's the reason for the quality and extra care that go into its making.

***every** industry benefits from wire rope*

WICKWIRE ROPE

CF&I PRODUCT OF WICKWIRE SPENCER STEEL DIVISION
THE COLORADO FUEL AND IRON CORPORATION

2535

THE COLORADO FUEL AND IRON CORPORATION—Abilene (Tex.) • Denver • Houston • Odessa (Tex.) • Phoenix • Salt Lake City • Tulsa
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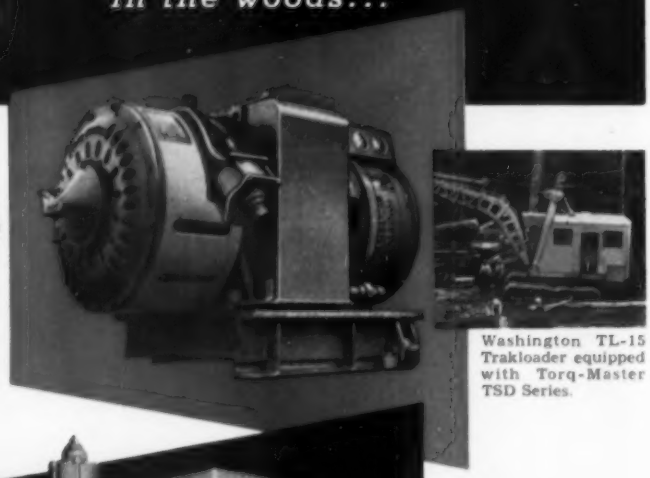
WESTERN GEAR'S

BIG 3 TORQ-MASTER

series steps up production in the woods...

TORQ-MASTER TSD CONVERTER

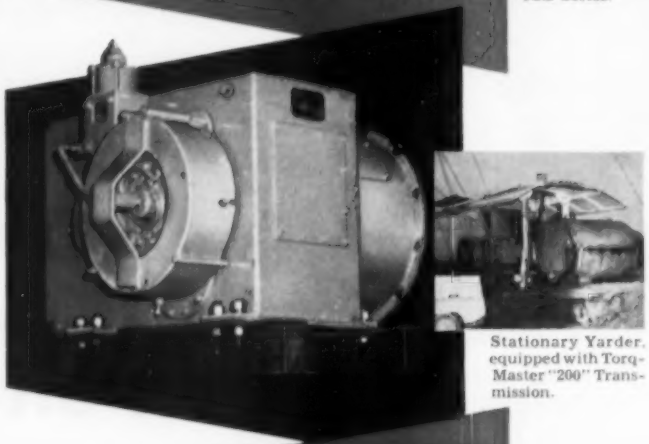
"Time Proven" Torq-Master TSD Converter Transmission gives advantages of *anti-shock* torque selection together with 2-speed range. From a heavy *smooth* strain on the big logs to a fast *smooth* pull on the light loads with one quick flick of the wrist. Reduce your rigging costs and increase production... put *all* your horsepower to work with Torq-Master.



Washington TL-15 Trakloader equipped with Torq-Master TSD Series.

TORQ-MASTER "200" TRANSMISSION

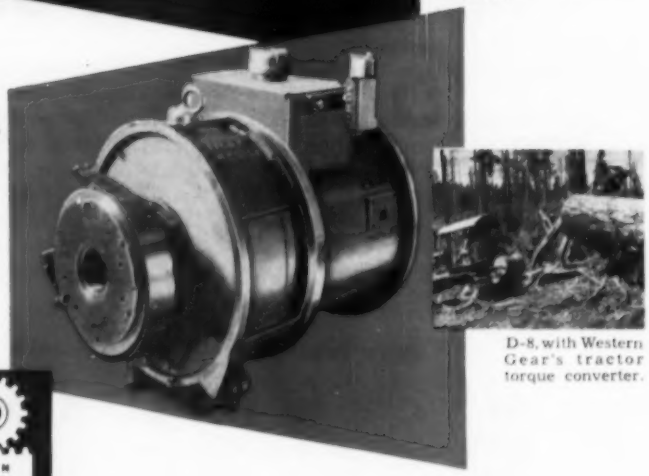
A single compact power package offering the proven advantages of automatic speed-torque selection, torque multiplication range up to 18 to 1, engine or counter engine sprocket rotation, 2 speeds built for quick shift while under load. Built-in 3 to 1 reduction requiring less chain ratio gives easier Yarder application (150 to 300 HP Yarder Class).



Stationary Yarder, equipped with Torq-Master "200" Transmission.

TRACTOR TORQUE CONVERTER POWER PACKAGE

Now available for most high speed diesel engines, Western Gear's tractor torque converter is engineered for easy installation WITHOUT COSTLY FRAME ALTERATION. The converter drive virtually eliminates costly transmission and final drive wear and damage due to absence of shock. D-8's get up to twice the normal production with the tractor torque converter.



D-8, with Western Gear's tractor torque converter.

"The difference is reliability" • Since 1888

WESTERN GEAR

PACIFIC-WESTERN PRODUCTS | POWER TRANSMISSION GEARS • MACHINERY •

5447

For further information, please write our Seattle plant at 417 Ninth Avenue South, Seattle 4, Washington

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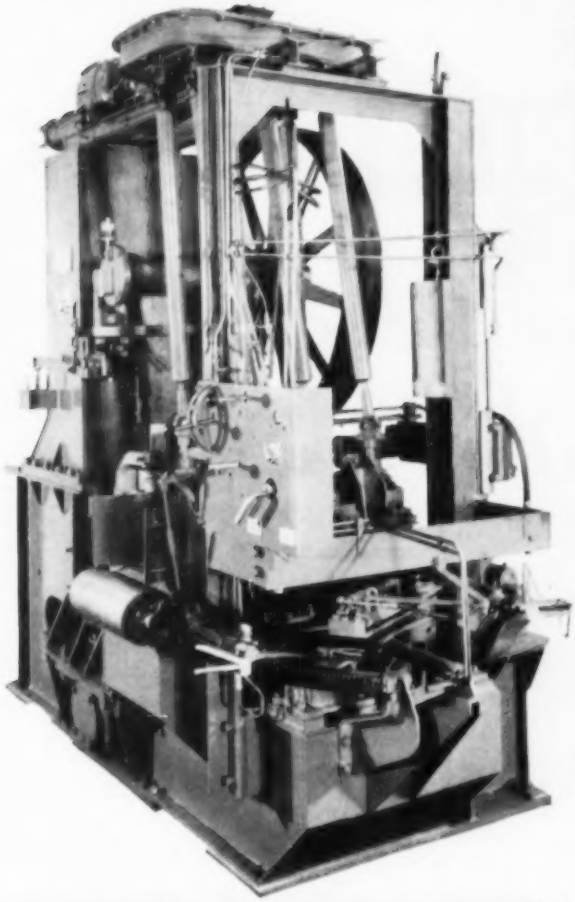


The New . . .

BLUE BABE

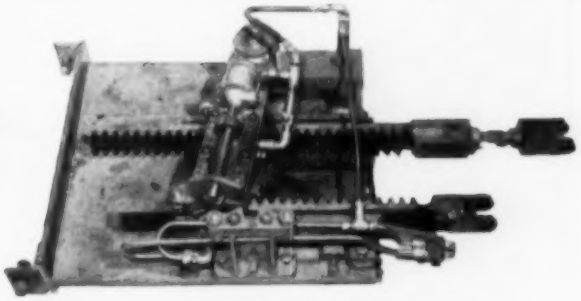
Heavy Duty

6 Roll Resaw

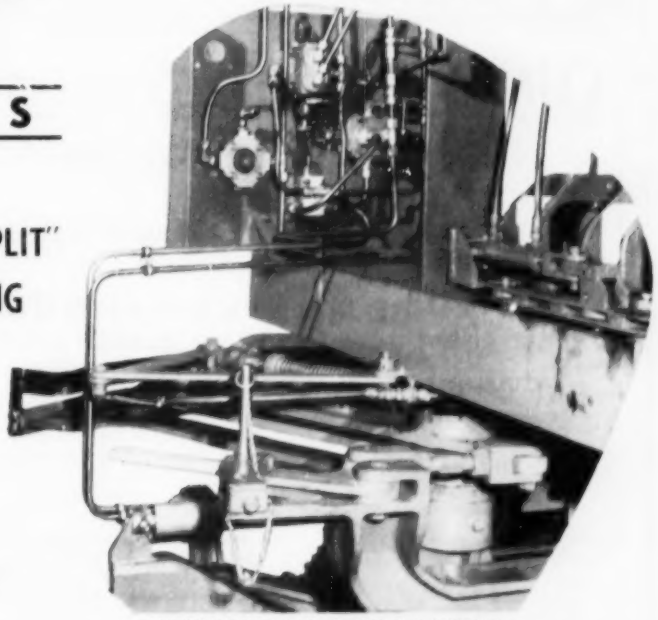
Model "H"

Center Split

"Kwick-Change" Type



CENTER SPLIT UNIT



CONTROL PANEL (REAR VIEW)

FEATURES

- INSTANT CHANGE FROM CONVENTIONAL TO "CENTER SPLIT" OPERATION FROM ANY SETTING
- HIGH OVERRUN
- TRUE CUT STOCK
- HIGH PRODUCTION
- RIGHT OR LEFT HAND
- STANDARD OR WIDE OPENING
- LOW MAINTENANCE

WRITE OR CALL FOR DETAILS
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NORTHWEST MARINE IRON WORKS

DESIGNERS OF SAWMILL AND LOGGING EQUIPMENT

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DYNAMOMETER, CHASSIS & ENGINE CHECK SERVICE

COME IN — SEE IT — USE IT

This chassis dynamometer is the very latest. Provides accurate check on the horse power delivered at the wheel.

This is engine dynamometer of a late type to insure maximum horse power on diesel engine.

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Leaders in lightweight, high-speed diesel power!

CUMMINS

Logger picks ROADRANGER®

D. R. Denning of Pendleton, Ore., is bringing out maximum payloads faster, getting the greatest boost ever offered in logging truck performance with the *Fuller R-95-C* ROADRANGER *semi-automatic transmission.*

Denning's tractor is a Four Wheel Drive model HLY 6x6D, powered with a 200 hp diesel engine. The use of the Fuller ROADRANGER as the power delivery unit in this tractor has provided the following operating advantages:

- No gear splitting—10 selective gear ratios, evenly and progressively spaced.
- Easier, quicker shifts—28% steps.
- One shift lever—complete control of ratio selection.
- Higher average road speed — engine operates in peak hp range with greater fuel economy.
- Range shifts pre-selected—automatic and synchronized.
- More cargo on the payload axle. For trucks in the 125-160 hp range the smaller 8-speed, one-lever semi-automatic R-45 ROADRANGER is gaining universal acceptance — setting new performance records, providing long life and trouble free operation.

Specify a Fuller ROADRANGER Transmission *for your equipment!* Check with your local truck dealer.

Fuller TRANSMISSIONS®

FULLER MANUFACTURING COMPANY (Transmission Division), KALAMAZOO, MICHIGAN

Unit Drop Forge Division, Milwaukee 1, Wisc. • Shuler Axle Co., Louisville, Ky. (Subsidiary) • Western Dist. Branch (Sales & Service, All Products), 641 E. 10th St., Oakland 6, Cal.

TAPER-LOCK

A PATENTED PRODUCT OF DODGE

—OFF THE SHELF

NO REBORING!
NO KEYSEATING!
NO MACHINING!

Ready for the shaft, with no costly, time-consuming operations to make them fit. That's the big news about Dodge Taper-Lock Sprockets. Taper-Lock grips the shaft with the firmness of a shrunk-on fit, yet comes off easily. Bushings may be re-used. They come in sizes to meet most every application.

Taper-Lock Sprockets are available from Distributors' stocks in a complete range of B-type steel sprockets—½" through 2" pitch. Dodge quality Roller Chain is packaged in 10-foot lengths—also available in 50-foot and 100-foot reels. Save time—save money—keep production rolling—get Dodge Taper-Lock Sprockets and Roller Chain from your Dodge Distributor.

DODGE MANUFACTURING CORPORATION, 900 Union St., Mishawaka, Ind.

CALL THE TRANSMISSIONEER, your local Dodge Distributor, for valuable assistance on new, cost-saving methods. Look for his name under "Power Transmission Machinery" in your classified telephone directory, or write us.

THERE'S ONLY ONE TAPER-LOCK, THE BUSHING THAT MOUNTS FLUSH!

Standardize, economize with Taper-Lock, the bushing that is interchangeable in Dodge sprockets; sheaves, couplings and conveyor pulleys. *More than 2,000,000 in use!*

DODGE

of Mishawaka, Ind.

It takes MURPHY DIESEL to complete the picture

Scores of sawmill operators already know what a difference it made when they completed their operating picture with Murphy Diesel Power.

You'll see the difference, too . . . you'll see your fuel costs go down . . . you'll see your output go up. Murphy Diesel is a heavy duty engine, designed to get the most usable power out of every drop of fuel. The dependability and freedom from downtime of Murphy Diesels means a higher daily average of board feet.

Ask your Murphy Diesel Dealer to show you exactly what Murphy Power can do for you. There's no obligation.

This portable veneer mill of Humboldt Plywood Corp., Arcata, Cal. is powered by a 100 K.W. Murphy Diesel Generator Set.

MURPHY DIESEL COMPANY 5351 W. Burnham St. Milwaukee 14, Wisconsin

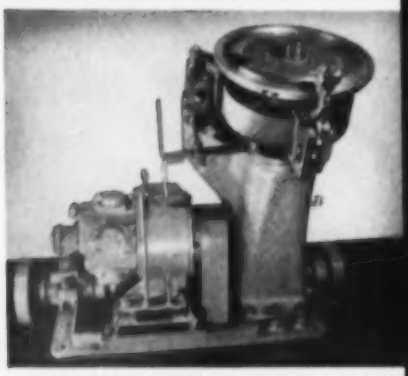
317

MURPHY DIESEL

Heavy duty power **for sawmills**

Murphy Diesel Engines and Power Units for logging and sawmill operations are available in sizes from 90 to 240 H.P. Engine speeds are 1200 and 1400 rpm. "Packaged" generating units are available in capacities from 60 to 154 K.W.

New Filer & Stowell Head Rig Machinery



AIR MOTOR SET WORKS — *Now preferred as the most accurate setting and fastest receding set works. Rugged, simple construction eliminates costly repair. Easy to convert present set works to Filer & Stowell Air Motor Drive Set works. Write for bulletin #301.*

AIR DOG CARRIAGES — *Only Filer & Stowell Air Dog Carriages have the "Dual Movement", which eliminates miscutting by pulling the dogged logs back firmly against the head blocks. No faster dogging mechanism exists than Filer & Stowell inside the knee Air Dogs with top and center teeth.*

SHOT GUN CARRIAGE FEEDS — *Proven on more installations to be the fastest and least costly drive for sawmill carriages to get more lines per minute. Equipped with all the latest safety devices, these guns may be powered by steam or air. Find why smart sawmill operators are going back to this time proven method of driving Log Carriages. Write for Bulletin #303.*

Now . . . increase production of better lumber at lowest cost. Filer & Stowell brings you the most accurate and durable Head Rig Equipment available, with the greatest capacity for more lines per minute.

To eliminate losses from "downtime", the *headache* of all mill men, Filer & Stowell *Head Rig* Machinery is recommended *the world over.*

BAND MILLS — *Only Filer & Stowell Band Mills have all the features needed to fulfill the desire of sawmill operators for the most sensitive and durable Band Mills. Ask for bulletin #300.*

World's largest builders of sawmill machinery since 1856

THE FILER & STOWELL CO.

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The Y-200—20,000 lbs. at 24 inches

NO CAPITAL INVESTMENT

for your material handling equipment

when you use

CLARK'S PAY-AS-YOU-GO LEASE PLAN

Without tying up a penny of working capital, put Clark material handling equipment to work for you. With Clark's pay-as-you-go plan, any of Clark's many models and types of handling equipment is available for your immediate use. With no down payment and at a low monthly cost, this lease plan enables you to:

1. Conserve working capital for other essential needs—such as additional inventory, plant expansion and non-leasable capital equipment.

2. Pay-as-you-go rental is a totally deductible expense.

3. Eliminate trade-in problems and get the benefit of newest equipment.

No outside financing is necessary—you deal directly with your local Clark dealer who will help you determine what equipment best fits your needs. Gas or electric fork trucks, Powrworker hand trucks, tractors and Clark-Ross carriers—all are available on a 3 or 5 year lease.

Let Clark equipment pay for itself as it cuts your handling costs. Call your local Clark dealer for a discussion of the details which will not obligate you in any way.

SEE THE YELLOW PAGES OF YOUR PHONE BOOK FOR THE NAME OF YOUR LOCAL CLARK DEALER

CLARK EQUIPMENT

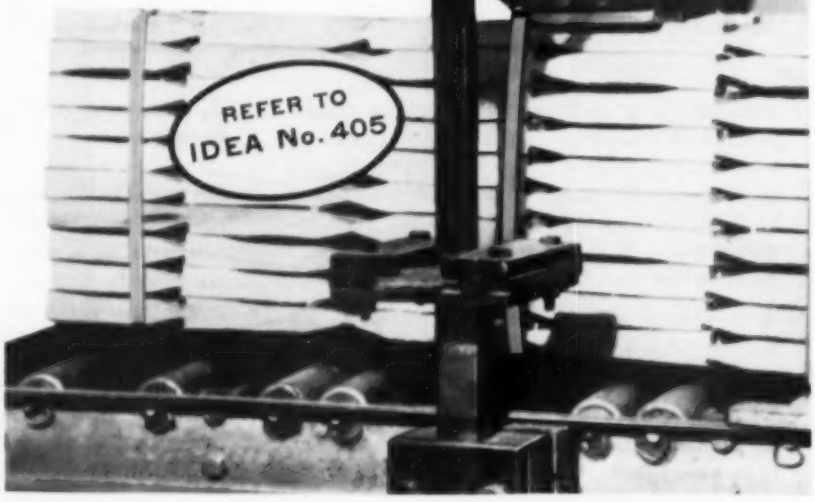
Industrial Truck Division
CLARK EQUIPMENT COMPANY
Battle Creek 156, Michigan

AIM* for Faster Bundling with Acme Steel Strapping Ideas

When a company produces a half million pieces of anything each day there's no doubt about the materials handling problem to be solved. Baker Wood Preserving Company, which daily produces 500,000 railroad tie plugs—among other wood products—turned to Acme Steel Company for help in bundling its tremendous output. For this Ohio manufacturer, Idea #405 means the company can keep pace and is prepared for further increases in production. This use of Acme Steelstrap and Strapping Tools is typical of Acme Steel's experience in solving shipping and materials handling problems.

Ask your Acme Idea Man for an on-the-job demonstration of Acme Steel Strapping methods. Or, write Acme Steel Products Division, Dept. AA-35, Acme Steel Company, 2840 Archer Avenue, Chicago 8, Illinois.

Ted Starr, Acme Idea Man in Columbus, Ohio, helped solve this high-speed bundling problem.



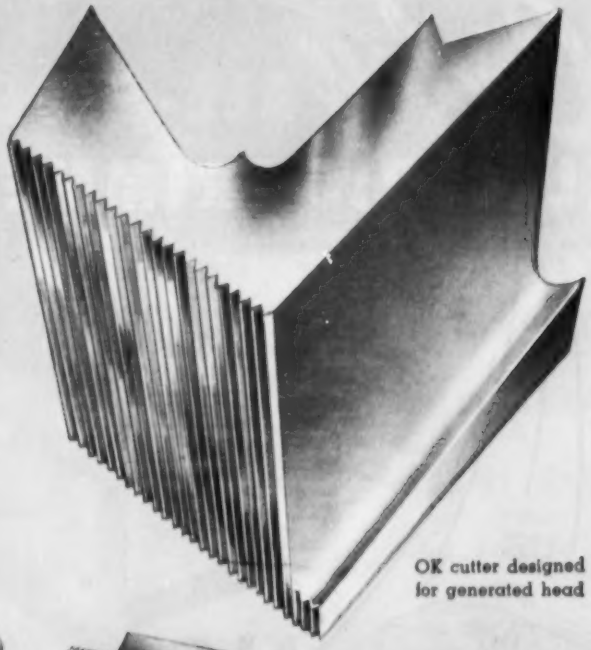
ask your
*Acme Idea Man
to help solve your
problems

AIM *For Safer, Lower-Cost Shipping*

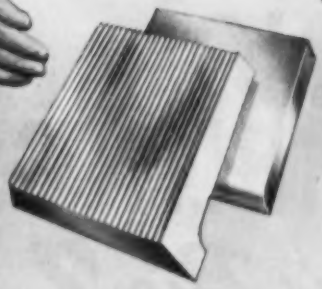
ACME STEEL

you'll get better "eased edge" with

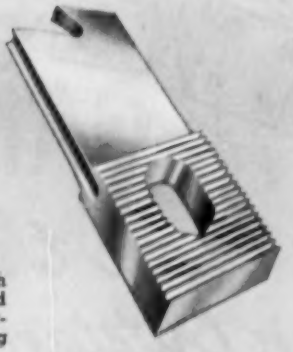
OK CUTTERS



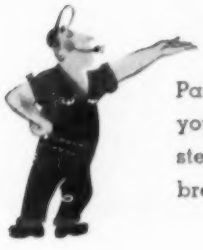
OK cutter designed for generated head



OK patented easy-edging cutter with filler plate to match. This eased edged knife can be used in any standard corrugating side head, thus eliminating the expense of special heads.



These OK splitter knives are carried in stock ready for immediate delivery. Sizes for 1/4" and 5/16" kerf.



all surfaces are ground to produce a better edge

Particular attention is given to the **GRINDING** of all corrugations to insure a perfect fit in your cutter head. All OK Cutters are made of OK No. 6 grade of hardened and tempered steel. They are designed to stand up under high speeds and heavy feeds without breaking, and to hold an edge for extremely long runs.

For complete information write Dept. 40-R.

GO WITH OHIO GREEN

THE OHIO KNIFE CO.

CINCINNATI 23, OHIO

PLANER KNIVES • VENEER KNIVES • CHIPPER KNIVES • HOG KNIVES

BRANCH OFFICES: Chicago, Illinois; Cleveland, Ohio; Salem, Ohio; Detroit, Michigan; Los Angeles, California; Mt. Vernon, New York; Portland, Oregon; Seattle, Washington

Corley ALL-STEEL ELECTRIC TRIMMER

NO GAMBLING

on this Big 7 in Outstanding features!

The Corley All-Steel Electric Trimmer embodies not only the 7 big features outlined at the right, but also all the other quality features which Corley has picked-up in its 50 years of serving lumbermen.

If you have ever operated a two-saw trimmer, you know that the one weak point is the long, vibration-inviting mandrel. This completely new idea in the Corley All-Steel Electric Trimmer overcomes this weakness and gives a lot of pluses to boot. Each saw is powered by its own 5-HP motor and the entire unit travels with its own transfer block.

You'll want to know all about it.
Write for complete information TODAY!

1. **NO MANDREL**—Elimination of the long mandrel overcomes vibration and the other shortcomings found in most two-saw trimmers.
2. **SAW LEAD**—Since the saws are individually operated, they can be set with lead to eliminate tail-pinching.
3. **FAST SAW CHANGE** — Remove nut and collar and the saw slips off easily. No disturbing alignment.
4. **TWO RATES OF FEED**—A separate 2-speed motor operates the feed . . . A board every two seconds or every four seconds.
5. **FAST SAW SHIFT**—The geared hand crank shifts saw one foot for each turn—with ball-bearing ease.
6. **WELDED STEEL CONSTRUCTION**—A compact, sturdy, durable machine that will give years of trouble-free service.
7. **CORLEY NAME PLATE**—This symbol of quality has been your assurance of the best in engineering, manufacture and service for 50 years.

Corley Manufacturing Co.
CHATTANOOGA • TENNESSEE
DIRECT FACTORY BRANCHES:
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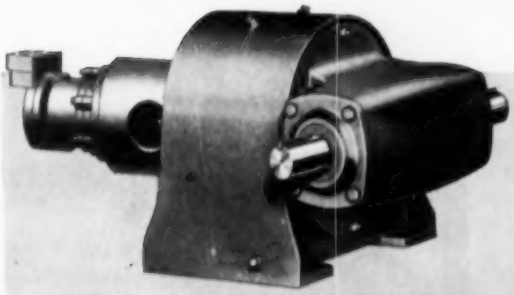
NOW! NEW OILGEARDUCERS

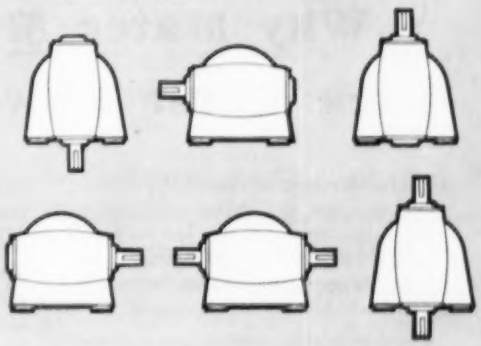
Offering for the first time compact, packaged, fluid power output drive units!

● Oilgearducers are new integral output drive units combining Oilgear Fluid Power axial piston motors and Falk All-Steel Reducers. There are horizontal and vertical models, concentric and right angle types and single, double, triple and quadruple reduction. Now, for the first time you can get a complete, easy to install, "ANY-SPEED" output unit for your high torque, low maximum speed drives. When used in combination with Oilgear Fluid Power Pumps, these reversible Oilgearducers provide infinite variability of speed, absolutely controlled rate of acceleration and deceleration, smooth and swift reversal, cushioned braking. All these together with major economies in motor, circuitry and power requirements. This new Oilgearducer "Any-Speed" output unit is available in sizes from 1 to 20 h.p. It is unequalled for applications as diverse as can-filling, paper machines, centrifugals, cable wrappers . . . and in automation or feed back applications where synchronization is an absolute necessity. Write now for new bulletin 56610. THE OILGEAR COMPANY, 1562 West Pierce Street, Milwaukee 4, Wisconsin.



RIGHT ANGLE OILGEARDUCERS

Oilgearducers with right angle output shafts are available in ratios ranging from 5 to 1500: 1. In assemblies shown below.



Write for this new Bulletin 56610

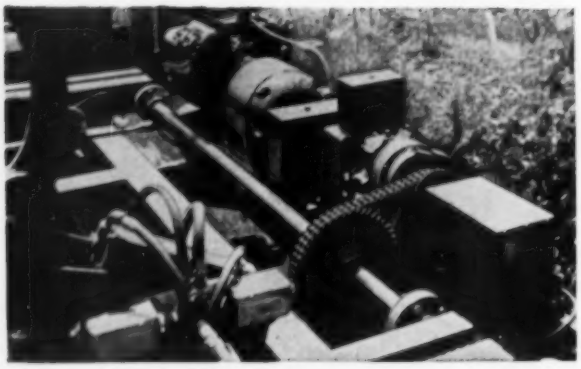
OILGEAR

OILGEAR

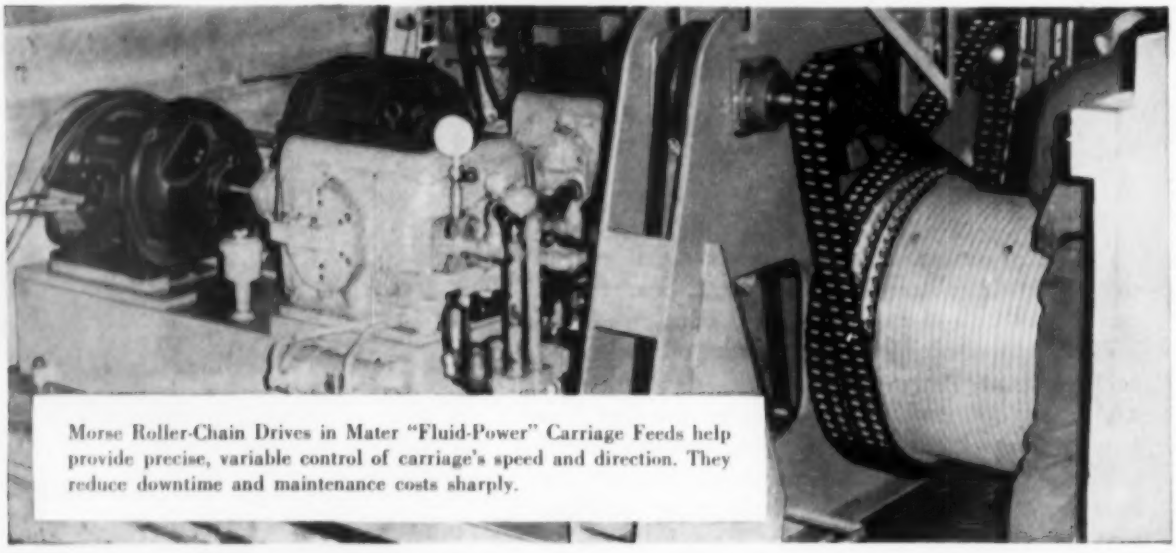
PIONEERS...NOW THREE PLANTS FOR FLUID POWER

PUMPS, MOTORS, TRANSMISSIONS, CYLINDERS & VALVES

Precision-built, extra-strong Morse Roller Chain Drives accurately control movement of foolproof headblocks in Mater Carriage.



On Mater Carriage, Morse Roller Chain Drives transmit power from air motor to set shaft, from set shaft to Sel-Set distribution box.



Morse Roller-Chain Drives in Mater "Fluid-Power" Carriage Feeds help provide precise, variable control of carriage's speed and direction. They reduce downtime and maintenance costs sharply.

Why Mater Modern Sawmill Machinery uses Morse Power Transmission Equipment

Mater *Modern Sawmill* Machinery incorporates the latest engineering advances, provides the last word in automatic control mechanisms. It features rugged construction, accuracy, extremely low maintenance cost.

For dependable, positive power transmission, Mater specifies Morse Roller Chains and Sprockets in the equipment pictured above and in other products, such as remote-control setworks. Morse Flexible Chain Couplings are used in Mater Headrigs, Edger Arbor Drives, and feed roll drives in Mater Edgers.

Morse Roller Chain Drives transmit power with over 99% efficiency, give extra-long service life, reduce downtime necessary for maintenance and adjustments.

Morse Flexible Chain Couplings compensate for slight angular or parallel misalignment. They are easily assembled and disassembled.

Whatever your power transmission needs, put economical, dependable Morse products to work for you. Ask your nearby Morse distributor (see below) for information on Morse Roller and Silent Chain Drives, Morse Roller Chain or Silent Chain Couplings, and Morse Morflex Flexible Couplings.

NORTHWEST MORSE REPRESENTATIVES

Adam Hill Co.,
244-246 Ninth Street
San Francisco 3, California

Chain Gear, Inc.,
820 First Avenue, South
Seattle 4, Washington

J. W. Minder Chain & Gear Co.
307 S.E. Hawthorne Blvd.
Portland 14, Oregon

Power Transmission Products
1107 N. W. Fourteenth Street
Portland 9, Oregon

Western Equipment Co., Ltd.
102 Main Street,
Vancouver, B. C., Canada

Morse Chain Company — A Borg-Warner Industry

"Eucs" for logging operations

This Euclid S-7 Scraper is ideal for construction of access roads. It is powered by a 138 h.p. engine . . . makes non-stop turns in 26' for close quarter work . . . has a heaped capacity of 9 cu. yds. . . . 4 section reversible cutting blade . . . with easy accessibility of major components for servicing and maintenance.

Rear-Dump "Eucs" have capacities of 10 to 50 tons . . . with diesel engines of 125 to 600 h.p. . . . are available with standard gear transmissions or Torqmatic Drive . . . Euclid planetary drive axle . . . have loaded top speeds up to 36 m.p.h.

This "Euc" Log Hauler is powered by a 300 h.p. engine . . . has Torqmatic Drive with No-Spin differential . . . 18.00 x 25 tires on drive and trailer wheels . . . 14 ft. bunks and 60-ton capacity . . . hydraulic booster steering . . . top speed empty of 30 m.p.h.

cut road building and log hauling costs!

For building and maintaining haul roads Euclid Rear-Dumps, Bottom-Dumps and Scrapers have the rugged construction, large capacity and speed that get more work done at lowest cost. Because they're engineered and built expressly for off-the-highway service, "Eucs" have longer life with lower maintenance cost than "beefed up" highway trucks. They've earned their reputation for top performance on hundreds of the toughest jobs everywhere.

Designed for log hauling, the Model TD Euclid has 14 ft. bunks and 60-ton capacity. It uses the same major components that have made "Eucs" the accepted standard for years on mine, quarry and construction work. The 18.00 x 25 tires have 15% more capacity than the 12.00 x 24 tires usually found on tandem axle trucks—their larger rolling radius and ground contact area give better traction on soft roads. Simplicity of drive components results in easier servicing and lower maintenance cost.

Get information on the complete Euclid line from your nearby dealer or write direct . . . today!

EUCLID DIVISION GENERAL MOTORS CORPORATION, **Cleveland 17, Ohio**

New L-M SAW CHAIN BAR

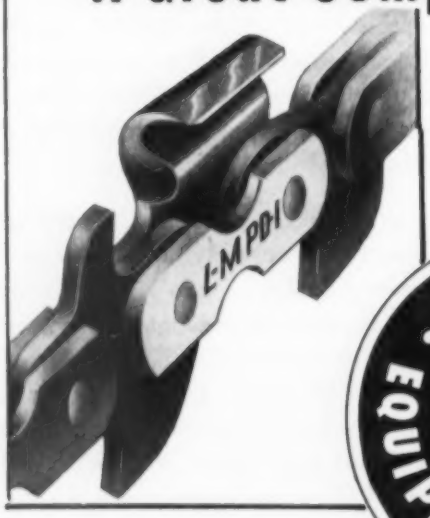
WITH ITS SPECIAL HARDENED (FORTIFIED WEAR) TRAVEL ZONE

Plus

EXTRA FLEXIBILITY TO OVERCOME BAR BREAKDOWNS

Smoother operation and longer wear to chain and bar are features of the new L-M Saw Chain Bar. Extra hardness *concentrated* along the saw chain travel area (bar rails) near the wearability of stellite alloys has been developed by L-M Equipment. Just as important, L-M has produced this new saw chain bar with extra flexibility to withstand the strain, shock and twist of heavy-duty chain operation. *Also, bar rails are of equal thickness!* Write for details on how this saw chain bar can make a great profit showing for you!

A Great Companion to L-M Saw Chain



Available in 50 or 100 foot L-M saw chain reels, or in lengths cut to fit your special needs.

The Big Brute of Saw Chains

Designed so operating and all wear points are fortified to produce greater volume of cut logs easier with less maintenance. Reamed holes for all drive links; minimum amount of chain stretch—maintenance of constant pitch; faster chip removal; more thorough groove cleaning are other points of the L-M Saw Chain superiority.

L-M EQUIPMENT COMPANY
THE HOUSE OF CHAIN SAWS

Electric Air, Hydraulic Controlled
Standard and Custom-built Models
Pond, Deck and Log Splitting Saws
Portable Electric and Gasoline Powered Chain Saws
L-M Saw Chain Bars
L-M Saw Chain

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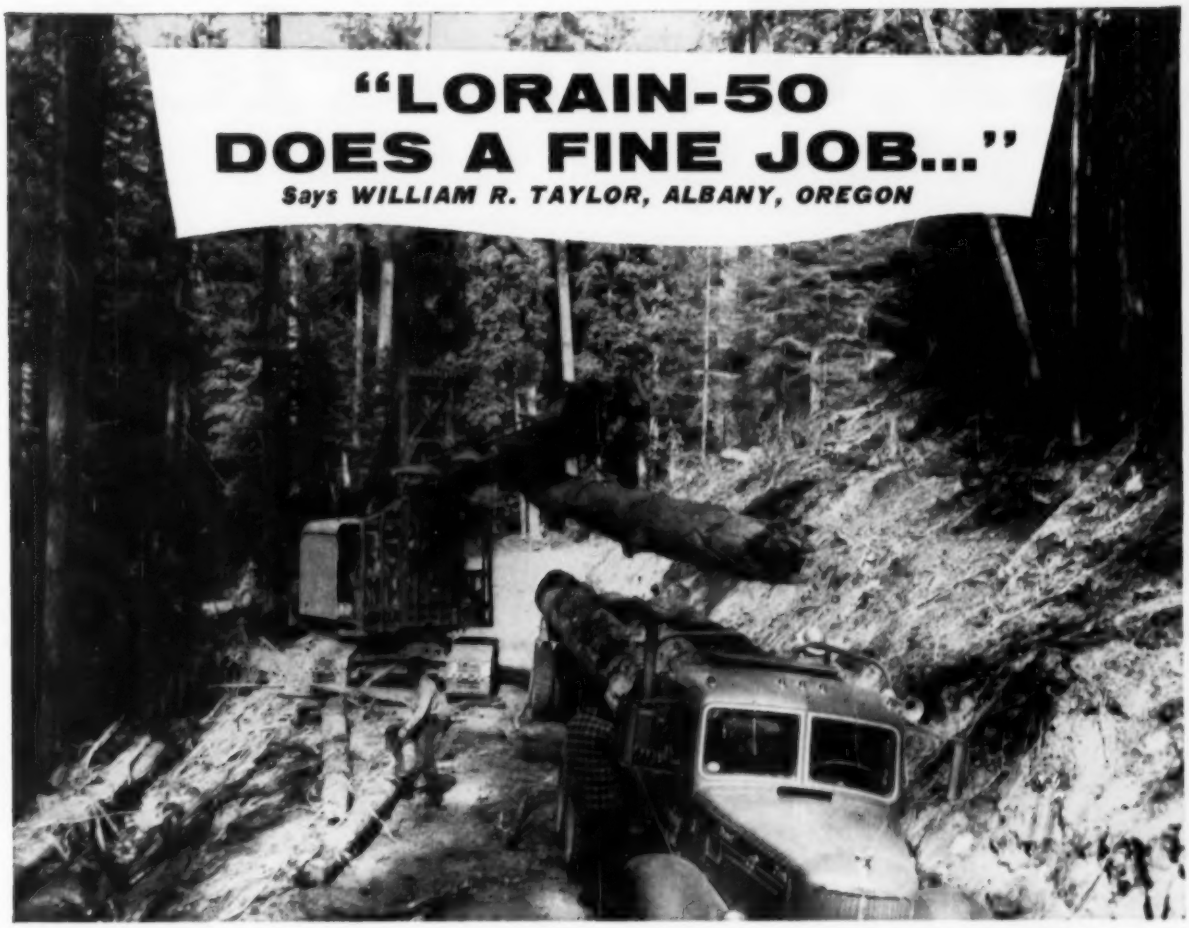
Eureka, California
36 5th Street
Phone Hillside 2-2515

401 S. E. CLAY STREET • PHONE VE 3146
PORTLAND 14, OREGON

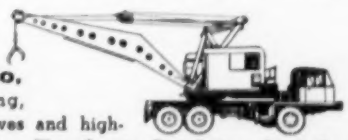
INTERNATIONAL SALES & SERVICE



"A fine job" means that logger Taylor is making money because of Lorain-50 performance. It means his "50" is on the job day after day steadily loading and speeding up the movement of trucks as it works up and down the logging road.

"A fine job" is the report of scores of loggers wherever the Lorain-50 Log Loader has gone to work because many "50" built-in features give them efficient, steady performance. The Hydraulic Coupling power take-off keeps engine power working all the time — the engine cannot "die", there is no "slam-bang" loading. Operators like the air controls for easier, smoother, more accurate operation. Power is transmitted directly to each operation so the operator can "gang-up" full power when needed or can distribute power to handle simultaneous operations. Lorain-50 Log Loaders are offered in a selection of 3 crawler types suited to specific working and terrain conditions.

These are but a few of the reasons why the popular Lorain-50 Log Loaders are "doing a fine job" wherever they go to work. It will pay you to investigate all of the reasons at your Thew-Lorain Distributor the very next time you have a log-loading problem.



LORAIN LOG LOADERS ON RUBBER, TOO, for selective logging, mobility, many moves and high-speed travel; ask your Thew-Lorain Distributor about the line of Lorain Log Loaders on rubber, from 6 to 45 tons capacity.

THE THEW SHOVEL CO., LORAIN, OHIO

LOGGING MEN PREFER THE NAME ...

THEW LORAIN

B.F.Goodrich

These tires cart 50 tons of logs over abrasive rock — resist cuts

ORVILLE E. WHITE's trucks haul lumber out of the logging areas around Cottage Grove, Oregon. A typical load of Douglas fir weighs 50 tons, must be carried over rock and gravel roads, often through heavy mud.

White keeps his trucks on the move by using B. F. Goodrich tires 100%. He reports the Rock Logger tread gives him maximum traction and cut resistance, says these tires stand up so well in severe service they can even be recapped!

All-Nylon cord body

Rock Logger tires are built with an *all-nylon* cord body (size 12.00 and larger—smaller sizes in either rayon or nylon). Nylon is stronger than ordinary cord materials, can withstand double the impact and resist flex bruises and heat blowouts. The Rock Logger tire outwears even its specially-compounded tread, can be recapped over and over!

Under the tread is the B. F. Goodrich nylon shock shield. Layers of strong nylon cords stretch together to protect the tire body from shocks. Rock Logger tires wear longer—more tires can be recapped. The patented nylon shock shield costs you nothing extra!

See *all-nylon* Rock Logger tires at your B. F. Goodrich retailer's. His address is listed under Tires in the Yellow Pages of your phone book. Or write *The B. F. Goodrich Co., Tire & Equipment Div., Akron 18, Ohio.*

Specify B. F. Goodrich tires when ordering new equipment

DRIVER J. Y. JONES (left) talks to White about B. F. Goodrich Rock Logger tires. These tires can be mounted in any wheel position. You need fewer spares.

10,000 BOARD FEET of Douglas fir logs come down a mountain to the mill. White mounts recapped Rock Logger tires on trailers, reports they cut his tire costs.

RESEARCH KEEPS B.F.Goodrich FIRST IN RUBBER

Owner after owner reports

TYDOL HD cuts engine wear

Truck Service records show Tydol HD cuts engine wear and maintenance. Accurate measurements on engines in for regular overhaul prove there's minimum wear on cylinder walls, piston rings, crankshaft and bearings. Tydol HD's inhibitors stop wear from rust and corrosion... even in shut-down. Fast acting detergency frees sticky valves and rings...prevents deposits such as sludge and varnish. And its tough, strong film won't break down or drain off. Get the *triple protection* of Tydol HD...the motor oil that *cleans* as it *protects* as it *lubricates.*

3 great oils for heavy duty service

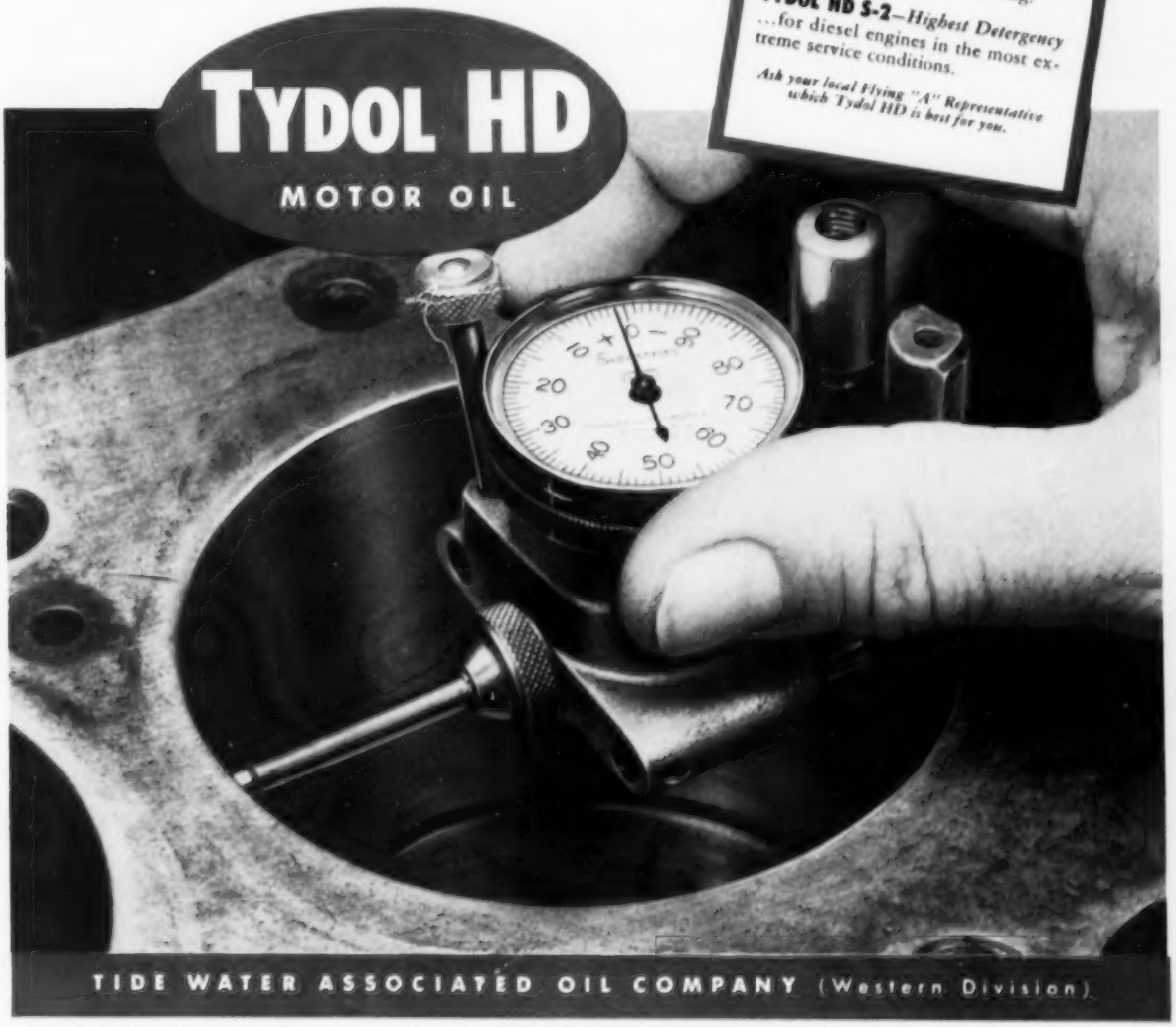
100% paraffin base oils scientifically compounded with selected additives for heavy duty.

TYDOL HD—*High Detergency*... for any type engine in normal heavy duty.

TYDOL HD S-1—*Higher Detergency* ...for stop-and-start service or engines subject to continual overloading.

TYDOL HD S-2—*Highest Detergency* ...for diesel engines in the most extreme service conditions.

Ask your local Flying "A" Representative which Tydol HD is best for you.



TIDE WATER ASSOCIATED OIL COMPANY (Western Division)

NOW—Handle MORE Logs in LESS Time at LOWER Cost with a MARION • OSGOOD • GENERAL MOBILCRANE

AIR TONGS
Slash Production Costs!

MARION-OSGOOD-GENERAL Patented Arm-Type Air Tongs make hooking and loading logs a one-man operation. Logs do not require special placing and can be handled from any angle. Use of the Air Tongs has reduced production and overhead costs as well as saving man hours and life and limb.

You can't beat the Model 825 MOBILCRANE for record-breaking log loading profits. Its ability to handle more big logs in less time and at lower cost is the result of a one-engine, one-man operation. Rubber-tired wheels provide maximum maneuverability and speed, even on high lead operations.

Trouble-free Air Control provides instant, accurate and smooth hoisting, swinging and traveling motions. Independent travel — 4 speeds forward, 4 reverse — and an independent boom hoist are standard equipment. Slack puller and slack kicker save time and energy. Torque converter is available as optional equipment.

We'd welcome an inquiry and the opportunity to give you job-proven, profit-facts on many MOBILCRANES now in operation in the logging industry.

INQUIRE FOR SALES AND SERVICE INFORMATION

EUGENE, OREGON
Western Equipment Co.
1360 W. First Avenue
Phone: 4-4265

VANCOUVER, B. C.
Columbia Equipment Ltd.
2782 Grandview Highway
Phone: Dexter 6030

MEDFORD, OREGON
Haupert Tractor Co.
Phone: 2-5278

PORTLAND, OREGON
Marion Power Shovel Company
Wm. F. Lanius, District Manager
3133 N.E. 87th Place
Phone: Kenwood 8-550

Western Equipment Co.
2244 N.W. Savier Street
Phone: ATwater 4128

SEATTLE, WASHINGTON
The Star Machinery Company
241 Lander Street

SPOKANE 8, WASHINGTON
The Star Machinery Company
415 Sprague Avenue
Phone: Riverside 6121

MARION • OSGOOD • GENERAL

Marion Power Shovel Co. • Marion, Ohio, U. S. A.

A Subsidiary of
MERRITT-CHAPMAN & SCOTT CORP.

ONE OF THE AMERICAN-Israel Lumber Mills big new band saws swings into action at the firm's Natanya plant. The lumber firm employs hundreds of workers, and has enabled savings of precious hard currency for Israel.

Israel Sawmill Capacity Will Double During 1955

• Israel today has seven saw mills with a combined capacity of about 40,000 cubic meters of round logs annually and an expansion program will double capacity by end of this year, reports Ernest Aschner of the Jewish Agency for Palestine.

The plywood industry at full capacity uses 50,000 cubic meters of round logs a year. Israel's lumber requirements for building purposes are well over 100,000 cubic meters a year.

Israel has a large-scale aforestation program, mostly in pine. However, most of the logs are imported into Israel.

There are 7 mills, either operating or under construction. Kahane Bros. and Haargaz, Ltd. are now installing block band saws with a diameter of 140 centimeters. Their annual capacity will be 5,000 cubic meters each.

Kelet-Afkim has installed a block band saw and a multiple vertical saw. The capacity of their log mill is estimated to be 7,000 cubic meters annually. Kelet has also added a veneer cutting machine to these operations.

The American-Israel Lumber Mills founded last year as a joint venture of the Palestine Economic Corporation, New York, and Straucher Bros., Natanya, have an annual capacity of cutting 30,000 cubic meters of round logs. They plan to produce about 1,000,000 citrus cases in 1955 and the log mill will use about 15,000 cubic meters of round logs, which will give about 10,000 cubic meters of cut timber. They have two block band saws of 140 and 180 centimeters in diameter respectively.

Etz Lavud have a saw mill with a block band saw of 140 centimeters and can cut about 10,000 cubic meters of round logs a year. The company has installed new automatic driers and have begun production of panel boards. Taal have increased their capacity in 1954 from 5,000 to 8,000 cubic meters and are expected to increase it further to 10,000 cubic meters this year.

Log Grapple Simplifies Cold Decking For Coos Bay Lumber Company

At Coos Bay Lumber one skilled operator, using an *ESCO* Log Grapple cold decks logs as safely and easily as a shovel operator loads loose gravel. Safety is emphasized.

There is no need for a man to be on top of the deck at any time.

LOG GRAPPLE DESIGN MAKES HANDLING EASY

Streamlined teeth—in a vertical position when the Grapple is open—move firmly and directly into the deck, gripping the logs securely.

An *ESCO* Log Grapple can reduce your log handling costs.

Grapple on long boom allows operator to spot logs accurately.

See your *ESCO* Dealer or write for details.

... for safety economy and dependability always ask for ...

ESCO

ELECTRIC STEEL FOUNDRY CO.

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Portland 10, Oregon
712 Porter St.
Danville, Illinois

ESCO International and New York Office
420 Lexington Ave., New York City, N.Y.

Other Offices and Warehouses
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San Francisco, Calif.
Seattle, Spokane, Wash.
Centralia, Pa.
Houston, Texas
Eugene, Ore.
Salt Lake City, Utah
Honolulu, Hawaii
In Canada, Vancouver, British Columbia and Toronto, Ontario.

TO GET THE JOB DONE—

GET MOLINE! WITH

A CHAIN FOR EVERY JOB

Into the Mill

Out of the Mill

Moline Refuse Flight Conveyors

JUST ONE CALL TO

MOLINE

DEALERS

Through the Mill

Production of the Mill

Moline Roller

We Manufacture a Complete Line of

DETACHABLE TRANSFER CHAINS
RIVETED COMBINATION CHAINS
RIVETED TRANSFER CHAINS
RIVETED REFUSE CHAINS
(MALLOY) LONG LINK CONVEYOR CHAINS
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ROLLER TOP TRANSFER CHAINS

We Are Manufacturers of

PROMAL CHAIN

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Charles A. Fowler Co.
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Hudson Machinery Co.
Tacoma, Wash.
668 East 11th Street
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822 First Ave. So.
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Industrial Machinery & Supply Co.
Box 775, La Grande, Ore.
Phone 10071

Electric Steel Foundry Co.
Seattle, Wash.—EL 4161
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Longview Equipment Co.
1005 15th Ave., Longview, Wash.
Phone 5605

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Phone 53821

Canadian Distributors:
Western Equipment Ltd.
102 Main St., Vancouver, B.C.
2003 Government St.,
Victoria, B.C.

Pacific Logging & Mill Supply Co.
Box 323, Grants Pass, Ore.
Phone 4071

MAKING MALLEABLE CHAINS FOR 60 YEARS

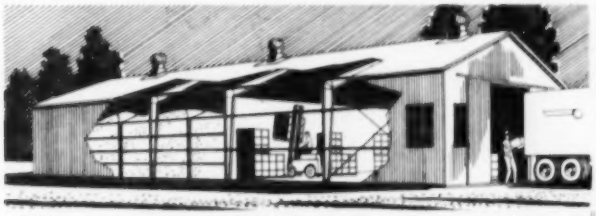
MOLINE MALLEABLE IRON CO. ST. CHARLES ILLINOIS

see how Soulé Buildings give

More Usable Space Per Dollar

Soulé Standard Steel Buildings are designed and mass-produced to provide maximum usable area at low cost. Rigid, clear-span steel frame needs no interior support columns. There is no wasted floor space to hinder the storage or handling of goods. Every square foot of a Soulé Building is *usable!* And you can move into your own Soulé Building within 10 days!

There's a Soulé Building to suit any need—commercial, industrial, agricultural—at the price you want to pay.

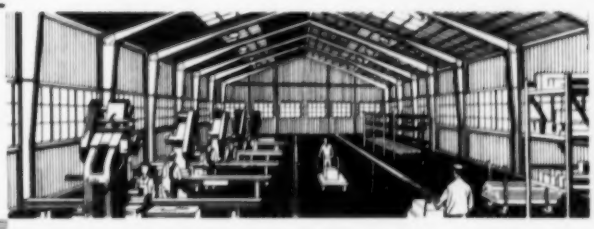


More Storage Space Per Dollar!

Absence of interior support columns means more room for storage, mechanical handling of materials. Precision-built Soulé Buildings provide tight, weatherproof storage for bulk commodities. Extra strong galvanized sheets, with rigid steel frame permit maximum bulk storage at low cost.

More Production Area Per Dollar!

Efficient production planning is easy with clear-span Soulé Buildings. *Every square foot of floor space is usable!* You can lay out production with minimum wasted space and motion. Your choice of floor plan, door, window set-ups helps you get more production area for your dollar.



Quickly Expanded at Low Cost.

Your Soulé Building can grow with your business. All-bolted construction permits fast, low-cost addition of building units. There's no costly breaking through brick or concrete walls. Sheets are removed, new framing is bolted into place, and the building sheeted. No mess, no loss of time. Building is completely usable during expansion! You can't buy a more practical, efficient, low-cost business structure!

Widths: 32′, 40′, 50′, 60′, 70′, 80′, Eave heights: 10′, 12′, 14′, 16′, 18′, 20′, Lengths: multiples of 20′

Write for Catalog showing Low Cost Soulé Buildings

SOULÉ STEEL COMPANY, Dept. BC

SAN FRANCISCO, 1750 Army Street • LOS ANGELES, 6200 Wilmington Avenue
PORTLAND, 2630 N. W. St. Helens Road • SEATTLE, 4100 W. Marginal Way
PHOENIX, 511 E. Roosevelt St. • SALT LAKE CITY, 220 Greyhound Bldg.
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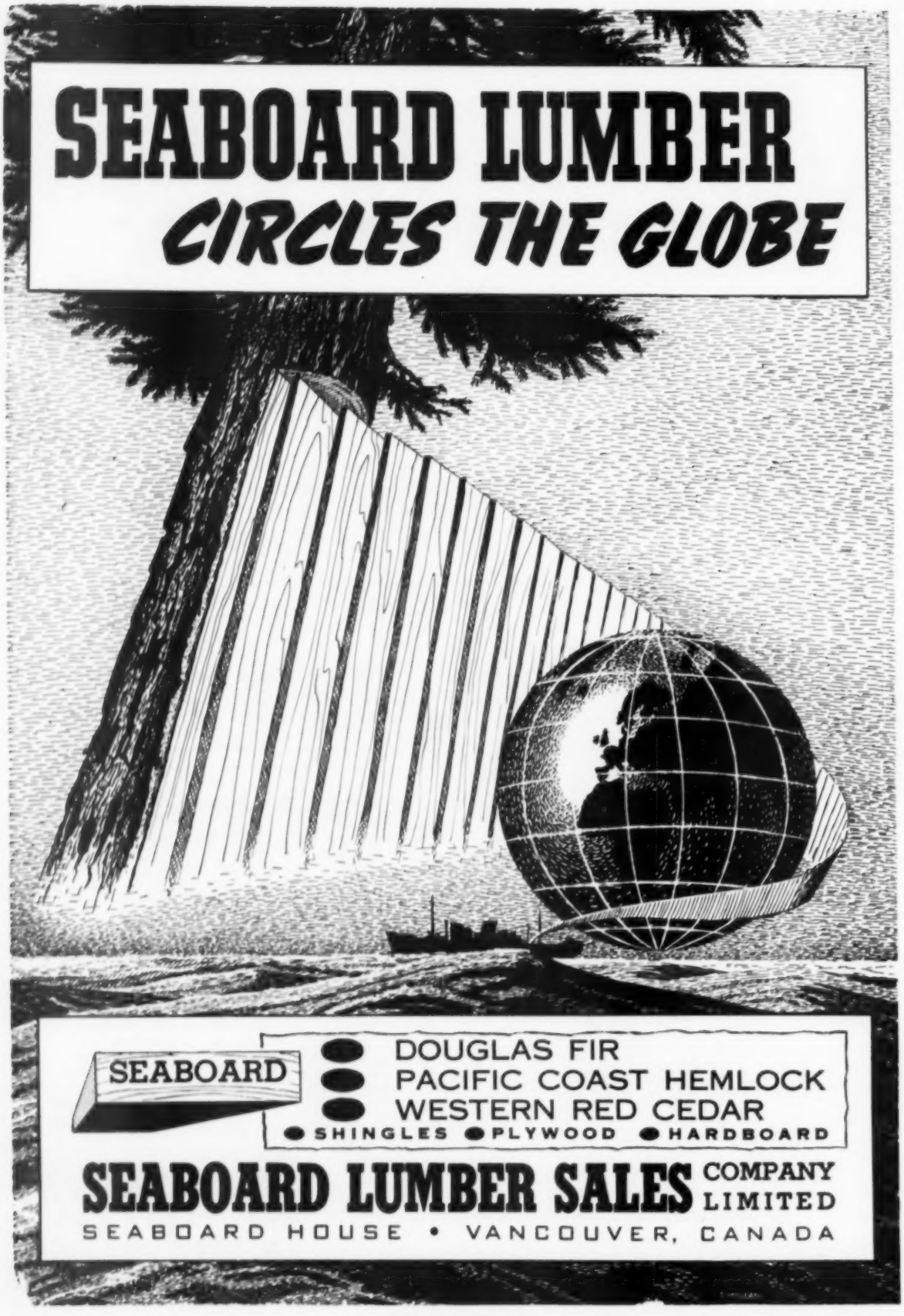
Soulé
LEADER IN STEEL BUILDINGS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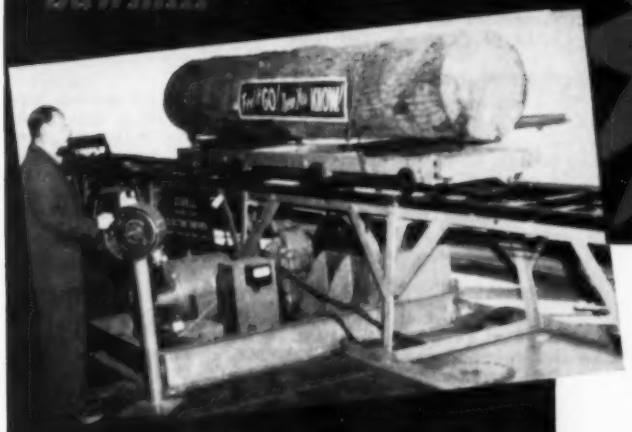
SEABOARD LUMBER SALES COMPANY LIMITED
SEABOARD HOUSE • VANCOUVER, CANADA

A ZIDELL Electric D. C. Log Carriage Drive...

Designed for your Sawmill

Nothing Down! PAY AS YOU CUT!



It is now possible to install a Zidell Drive in your mill on a **no cash down, per M cut basis.** Remember, inferior feed systems are inexcusable when one of the finest units may be yours, on approved credit, through this outstanding offer.

Today, it is necessary to employ modern equipment of the finest design, materials and workmanship, in order to deliver constant high-speed performance and still withstand the rigors of rough industrial service and at the same time effect a continuous saving to the owner through lower upkeep costs . . .

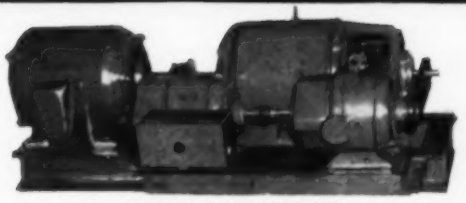
Zidell Machinery & Supply Co. have designed an Electric Variable Speed Log Carriage Drive, which fulfills these requirements in every respect.

Zidell carriage drive generators can be driven from an A.C. electric motor on electric mills, or off of the arbor shaft on portable mills. The D.C. current supplied by the generator is channeled to the drive motor via the controller and special exciters, resulting in Constant Torque, Instantaneous Reversing and Variable Speeds ranging from zero to maximum. The extremely smooth acceleration and deceleration resulting from this combination mean **longer cable life** and **less maintenance on all moving parts.**

Zidell Drives have been in operation throughout the Northwest . . . Some since 1947 and **all** with an excellent record of: **Higher Production, Less Maintenance** and **Greater Savings to the Operator.**

Guaranteed for One Year against Defective Materials and Workmanship.

A thorough "Follow Through" after each installation to assure purchaser's complete satisfaction.



MOTOR GENERATOR SET
Simple in design — All rotating parts
15 to 200 HP

DRIVE MOTOR AND CABLE DRUM
Rugged Construction — A Packaged unit

SAWYER'S CONTROL STAND
Less operating fatigue with "Fingertip Control"

INVESTIGATE TODAY!

- Send for further information.
- Have a Zidell representative call . . . no obligation.

For details... *Write, Phone, Wire*

ZIDELL MACHINERY & SUPPLY CO.

3121 S. W. Moody St., Portland, Ore. • AT 8691

A Condensed Summary of 1954's

Major Trends & Developments

In 1954, they affected every operator, both large and small, as well as all of his workers, shareholders and customers.

Access Roads

The need for more access roads to open up areas of overmature and beetle-attacked timber was recognized publicly in a greater degree than ever before, as reflected in HR 7818, which called for an authorization of 22½ million dollars for each of the fiscal years ending June 30, 1956 and 1957, and also specified public hearings in localities in which the roads were proposed.

The 83rd Congress approved a $24 million authorization with funds to match it, the first time in a decade this has occurred.

In western Oregon, the Bureau of Land Management accelerated its efforts to develop access roads into salvage areas, cutting much "red tape" in so doing.

In Regions 1, 3, 4, 5 and 6 of the U. S. Forest Service there are about 14000 miles of satisfactory Forest Service access roads. An ultimate 63000 miles are needed.

Utilization

Rapid strides were taken in more complete utilization of logging and milling residues. One portable chipper went into production in eastern Oregon, delivering raw material made from non-commercial species, for use in a softboard plant.

More sawlog barkers were installed throughout the region, stepping up the volume of chippable wood that could be delivered to Kraft pulp mills and hardboard plants.

Two new pulp mills were announced for Oregon, one near Springfield and one near Albany. Alder is just beginning to be used for pulp.

Chipboard plants are the newest look in utilization. Weyerhaeuser Tbr. Co. will have one in production at North Bend, Ore., in 1955. Other units will be at Corvallis and Sweethome, Ore.

Insects & Disease

Still unsolved, and getting bigger annually, is the problem of halting losses caused by insects and disease. The Pacific NW Forest Pest Action Committee stressed the onslaughts of the villains:

Some 1620 million bd. ft. of spruce has been killed by the bark beetle to date, of which 35 percent will have been salvage logged by June 30, 1955.

The spruce budworm will call for an outlay of about 82 million in 1955 to treat infected areas in eastern Oregon, southern and northern Idaho, Montana and New Mexico.

Cooperation between agencies in the battle against bugs has been excellent. New techniques have been developed in aerial mapping to detect epidemic outbreaks.

Multiple Use Concept

There is increasing recognition that our forests—state, federal and private—must be more than producers of sawlogs. The annual Western Forestry Conference at San Francisco stressed this concept by devoting the entire session to a discussion of the management of the other products of forests—forage, water, recreation and minerals.

Alaska

Alaska's place in the nation's forest economy was highlighted with the opening in May of the Ketchikan Pulp Company's 300 ton a day sulphite pulp mill, operating on a 50 year contract with the U. S. Forest Service.

The Pacific Northern Timber Co. is to build a sawmill at Wrangell and a pulp mill later. Georgia-Pacific Plywood Co. and Alaska Lumber & Pulp Co., Inc., have applied for two pulp-timber allotments near Juneau. There are indications that a hardwood industry may develop.

Salvage Operations

Logging to remove beetle and insect attacked trees continued at high pace. Cooperation between agencies resulted in cutting much red tape. Salvage progress has been reported on in recent issues of THE LUMBERMAN and in the Logging Review in this issue.

Labor Relations

1954 was marked by a major 84-day shutdown of logging and milling in the Douglas fir region—and minor shutdowns in other regions. It was a turbulent year in labor relations. At year's end the decks were cleared for later settlement of the basic issues involved in the strike by acceptance of the report of a fact-finding committee appointed by the Governors of Oregon and Washington, which guaranteed labor peace until April, 1956.

Financial

Losses caused by the strike included an 8.5 percent drop in fir production, compared to 1953; 31 million man hours of employment; an estimated $78 million in wages. Secondary losses included curtailed orders for new equipment and supplies and some depressed general business conditions in communities dependent on the lumber industry. Lumber prices reached a four-year low at the beginning of the year but had strengthened considerably at year's end.

Legislation

Most important new legislation was Public Law 426 of the 83rd Congress. This law has two parts, one concerning controverted land (nearly 463,000 acres) declared to be O&C land but to be administered by the U. S. Forest Service.

The second part authorizes the secretaries of Agriculture and Interior to exchange lands to block up and facilitate administration.

Public Law 566 gives the USDA authority to cooperate with local groups in solving flood control, drainage and irrigation problems on watershed units under 250,000 acres in size. It is the first test of the Administration's partnership approach.

Forest Practices

There has been a continuation and extension of sanitation-salvage cutting in both the ponderosa pine and Douglas fir regions. Studies are under way to learn the cheapest and most efficient methods of removing salvage material without damaging residual stands.

Improvement cuttings in second growth Douglas fir stands increased in scope and came in for more study.

Timber Inventories

How much wood the nation has will be known in 1955 as a result of the Timber Resource Review carried out in 1954 by the U. S. Forest Service. This reappraisal, set up in several Tasks, will take another long look at the nation's backlog of timber.

Demand for Wood

The Stanford Research Institute Report, entitled "America's Demand for Wood", sponsored by the Weyerhaeuser Timber Co. and made available to the forest products industry, gave the industry a preview of how much lumber, plywood, hardboard and pulp the nation will consume in 1975. (See Oct. 1954 issue of THE LUMBERMAN).

Tree Farms

At year's end private tax paying lands classified as permanent tree farms totaled 32,125,395 acres and 5759 ownerships, distributed in 36 states. This is economic assurance that timber can be grown as a crop.

Fire Losses

The western states reported 6216 fires, 181,530 acres burned and 21,946,000 board feet of timber destroyed in 1954, compared to 10,189 fires, 267,737 acres and 43,427,000 bd. ft. in 1953.

Bank Loans on Timber

Several loans were made by national banks in Oregon and Washington, with timber accepted as collateral, under provisions of the new Cordon-Ellsworth Timber Credits Act (Public Law 285, 83rd Congress).

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MARCH 25, 1955

High Levels of Productivity Maintained

through 1954, a good year for the forest industries but one which will probably be equalled or surpassed by 1955

THE FOREST INDUSTRIES, starting 1954 on a sour note and with economists forecasting a recession, were not far along in the year until they were swamped with new business and they closed the year with a bang, with demand unabated, prices rising and with every indication that 1955 would be a banner year for all divisions of the business, lumber, plywood, hardboard, millwork, shingles, doors, pulp, and other wood-using activities.

The year 1954 turned out to be one of the best in many, although not without some bad spots.

ONE OF THE LONGEST strikes in the lumber history closed many logging camps and mills in western states during the normally heavy producing summer months. However, at no time during the strike was lumber production at a complete standstill in the Pacific Northwest. Small mills, not affected by the strike, were able to produce a surprisingly large amount of lumber.

While the strike was very detrimental to the Northwest industry and economy, it stimulated production in other lumber producing regions such as the Lake States, Western Pine, Redwood, and Southern areas, as well as in British Columbia.

OUTLOOK IS BRIGHT for the future rather than the past with which lumbermen are most concerned. Lumbermen everywhere are genuinely optimistic and look for 1955 to be a good year.

Hear what Judd Greenman, manager of The Long-Bell Lumber Co.'s Vernonia, Ore., operations and president of the National Lumber Manufacturers Association, speaking for all lumber producing areas, West, South, Lake States, Atlantic Coast and for softwoods and hardwoods, has to say regarding the 1955 lumber outlook:

"The demand for lumber in all types of new construction should continue brisk next year. But home building is lumber's brightest spot in the construction picture.

"Recent studies indicate that the average U. S. dwelling unit contains approximately 10,500 board feet of lumber. If as many as 1.3 million new homes are started next year—as many government and private housing experts have predicted—the lumber used in home construction, alone, should total in the neighborhood of 13 billion board feet. That's roughly one-third of our industry's average annual production in recent years.

"We expect the trend toward greater use of wood in homes to be given added impetus next year by the Federal Housing Administration. FHA officials have indicated that they plan to give greater recognition in their appraisals to homes of contemporary design and quality materials. Wood fits these specifications perfectly.

"FHA's new policy will permit builders to take full advantage of the economy, versatility and livable qualities that wood imparts to a home."

THE STANFORD-WEYERHAEUSER report was one of the highlights of the year. The publication was titled "America's Demand for Wood, 1929-1975" and was prepared for Weyerhaeuser Timber Co. by Stanford Research Institute. This company deserves the thanks of all forest industries for making this report available to any who wish copies. Out of a mass of statistical data covering every segment of the industry comes this summary:

"1. Bigger markets lie ahead, as a result of the expected growth in size and acivity of the United States economy.

"2. No part of the various forest-products industries has been immune from inroads by competing materials, and this competition from other products will probably grow increasingly keen as time goes on.

"3. The various forest industries are already alert, and will be increasingly alert, to the possibilities of improved forestry and logging practices and new technical developments for harvesting the whole forest crop and for using all the material that comes to the mills from that crop.

"4. As competition and technical developments proceed, more and more products will be made with relatively less drain on the forests, so that available timber supplies will stretch much farther than would have seemed possible in the past."

EVER INCREASING quantities of timber were taken from United States Forest Service lands in 1954. A total of 2,585,000,000 feet of timber was removed from the eighteen national forests of the

The Lumberman's Forest Industries Production Data for 1953, 1954 & 1955

NOTE: THE LUMBERMAN presents production figures for the West, South, Lake States and British Columbia for 1953, 1954, with an estimate for 1955. This information obtained from sources whose figures in the past have been very reliable and conservative.

The only area in which any substantial reduction in lumber production is indicated is the Lake States region. One of the largest producers in the area is going out of business. Railroads are also buying fewer ties in the area than formerly.

Forecasts indicate that there will be 1.3 million or more homes started in 1955.

Many new veneer plants will come into production in 1955 and several new plywood plants which should account for an increase of close to 500,000,000 square feet ⅜" of Douglas fir plywood in 1955.

Several new board plants will come into production in 1955 which, along with increased production at some of the established mills, should boost the production of this item in the West to 800,000,000 or more square feet. (Note: Figures given here for hardboard are for all thicknesses.)

	1953	1954	1955 Estimate
DOUGLAS FIR			
Western Oregon, Washington, Northern California	10,335,403,000 Ft. BM	9,459,853,000 Ft. BM	9,932,825,650 Ft. BM
British Columbia (all species)	3,819,000,000 Ft. BM	3,925,000,000 Ft. BM	3,900,000,000 Ft. BM
WESTERN PINE			
Washington, Oregon, California, Idaho, Montana, Arizona, New Mexico	7,693,388,000 Ft. BM	7,835,000,000 Ft. BM	7,000,000,000 Ft. BM
SOUTHERN PINE			
Deep South	8,800,000,000 Ft. BM	8,360,000,000 Ft. BM	8,500,000,000 Ft. BM
REDWOOD			
California	950,000,000 Ft. BM	950,000,000 Ft. BM	950,000,000 Ft. BM
NORTHERN HEMLOCK, HARDWOOD			
Lake States	900,000,000 Ft. BM	875,000,000 Ft. BM	750,000,000 Ft. BM
DOUGLAS FIR PLYWOOD			
Washington, Oregon, California	3,670,000,000 Sq Ft. ⅜"	3,850,000,000 Sq Ft. ⅜"	4,300,000,000 Sq. Ft. ⅜"
British Columbia	580,000,000 Sq. Ft.	550,000,000 Sq. Ft.	600,000,000 Sq. Ft.
HARDBOARD			
Eleven Western States and British Columbia	508,000,000 Sq. Ft.	730,000,000 Sq. Ft.	800,000,000 Sq. Ft.
RED CEDAR SHINGLES	5,000,000 Sq. Ft.	5,250,000 Squares	5,300,000 Squares

Pacific Northwest alone and 751,983,000 feet removed on the national forests of California (1,058,483,000 feet was sold).

Numerous sales of government timber were made at what appear as staggering high prices, $60 or more per M. However, the Forest Service reports that the average stumpage price West-Side Douglas fir region was $17.29 per M and the East-Side Ponderosa price averaged $19.73 per M.

Figures, of course, are not available but a steadily increasing amount of second growth timber was cut in all parts of the United States.

BUILDING REACHED a record level in 1954. Principal reason for the heavy demand for forest products was of course the great bulge in home construction. The Department of Commerce states that a new record of $37.3 billion was established for construction activity in 1954. Outlays for new private construction ($25.7 billion) were up by 8 percent from 1953, topping the level for all previous years. Now predictions are made on all sides that building construction in 1955 will top that of 1954, which spell busy logging camps and mills all over North America.

PLYWOOD MARKET EXPANDS. Cumulative new orders for Douglas fir plywood in 1954 topped four billion feet, a new high record, and an actual increase of 10,000,000 feet a week. This occurred despite a strike which affected better than half of the productive capacity in Washington, Oregon and California.

The final tabulation on 1954 showed that the industry, which accounts for three-fourths of all the plywood manufactured in the country, produced 3,823,629,000 sq. ft., another all-time high, and four percent better than 1953.

AND TAKING A LOOK ahead, W. E. Difford, managing director of the Douglas Fir Plywood Association, Tacoma, Wash., says, "We are after an even bigger slice of the building market in 1955. We're going to do it with a Golden Jubilee anniversary promotion that will top anything this industry has ever attempted. The campaign will run the gamut from a mass meeting of all elements

(Continued on page 192)

DEZZ HAS SEEN many changes in his nearly 60 years in the sawmill business, but in 1955 he's still going strong. This old-time lumberman is Dezz C. Shawver, band mill sawyer at the Webster Hardwood Lumber Co., of Dixie, W. Va. Mr. Shawver was 73 years old when this picture was made. He puts in a full day at the headrig and saws about 22,500 bd. ft. of hardwood lumber a day on the five-foot band mill. In 17 years on this job he has lost only 20 hours of work time. (American Forest Products Industries photo).

Lumber - 1955

The Lumberman's Annual Lumber Review . . . . . With Staff Reports Covering All Regions

EPOCHAL DEVELOPMENTS of the past year focused attention on great fundamental changes that are taking place in the physical and economic aspects of the American forest industries. An old era is ending and a new one just beginning.

Two wars with accompanying restrictions and regulations and an unfavorable economic climate held back many changes which were inevitable. But in 1954, with the forest industries largely unhampered and free to act, new trends became plainly discernable. A few standouts will be mentioned:

1. FOR THE FIRST time in the history of the industry, manufacturers commenced to take a real look at the future. Typical of this was the Stanford-Weyerhaeuser survey and report which points out in great detail trends in numerous departments of the forest industry up to 1975; the survey and report of the plywood market by the Douglas Fir Plywood Association; the study and report of the National Wooden Pallet Manufacturers Association; studies by the pulp and paper industry; and the decision of the National Lumber Manufacturers and regional associations to undertake a survey of four major types of markets: those that seem to be holding their own, markets that are being invaded, markets that are dwindling, lost markets.

The industry has always recognized the need of market promotion but now the emphasis is to be on promotion in fields where research indicates good results may be expected through promotion. Hence need of intelligent, thorough market research of the type mentioned. This research determines fields where wood will continue to be used in increasing quantities, whether in home or industrial construction, on the farms, in furniture, pulp and paper, containers, etc.

2. THE PAST YEAR saw increasing use of whole log barking at saw mills and in at least one instance in the woods. The year likewise saw chip production at sawmills mounting in both the west and south; and the year witnessed more and better integration and better and closer utilization generally.

3. During the year there was plenty of evidence that higher manufacturing costs are forcing the industry to study and adopt cost-saving methods and equipment.

4. There has developed a greater awareness of the importance of safety not only from the standpoint of the individual but also from the economic standpoint. We now hear of big concerns, as well as small, operating for months or even a year or more without a single lost-time accident. This is real progress.

5. ECONOMISTS and researchers recognize the influence on demand for all goods due to increase in population. This factor has a tremendous impact on the forest industries. It means more homes, more schools, more churches, more stores, more buildings of all types. But, of perhaps greater importance is the result of the shifting of population. Fifty or even twenty-five years ago the bulk of the west's forest products was shipped to the east or exported, into highly competitive markets. The great upswing in western population calls for greater use of the western forest products **in the west.** This has helped stablize the markets and in a large degree removed the cutthroat competition that existed for years with the products of the south, middle west and east coast.

Of course large quantities of western products still move east of the Rockies and are exported but not in the same relative volume as in the past. This trend toward use of western forest products in the west will continue. This trend not only benefits the western industry but also producers in the other producing regions.

6. GREAT ADVANCES have been made in **product improvement,** and never more than in the past year. This trend is noticeable not only in lumber but in such products as plywood, hardboard, doors, wooden shingles, etc. Typical is the case of plywood. In a comparatively short period a large number of plywood producers have developed special products, all aimed at greater customer satisfaction. The trend toward new plywood products, overlays, the use of hardboard faces on Douglas fir cores, etc., are indicative of the new forward look in the industry. THE LUMBERMAN's readers will find in this issue a special section developed to some of the many new plywood products.

Readers of THE LUMBERMAN will find much of real interest and value in the regional industry reviews and forecasts which follow. They will, from these first-hand reports of THE LUMBERMAN's regional editors, obtain a clear-cut concise idea of conditions and the thinking of fellow lumbermen in the southern pine, British Columbia, the western pine, the Douglas fir and redwood regions, and the Lake States and the Atlantic coast areas. There will also be found in this

Estimated 1954 US Lumber Production by Regions

Region	M bd. ft.
Southern Pine	8,314,000
Douglas Fir	8,659,000
Western Pine	7,766,000
Redwood region	2,062,000
Other softwoods	2,111,000
TOTAL SOFTWOODS	28,912,000
Southern Hardwoods	4,290,000
Other Hardwoods	3,239,000
TOTAL HARDWOODS	7,529,000
TOTAL US LUMBER	36,541,000

Source: Based on THE LUMBERMAN's estimates for the fourth quarter of 1954. First three quarter figures are estimates made by National Lumber Manufacturers Association.

Lumber

Annual Lumber Review

(Continued from page 63)

issue reports from many of the more important foreign countries.

THE LATEST REPORT on probable construction in 1954 is as follows:

The nation is expected to have its record home-building year with 1.375 million starts forecast. The nation will need 77,000 new school rooms each year for the next decade just to keep even with the growth in population and to care for the war-baby boom. Remodeling of the nation's 45 million older homes will approach $12 billion, equal to new home costs. Other light construction building of churches, farm buildings, industrial and commercial structures is expected to keep pace.

Some Important Mergers and Acquisitions During 1954

(Reported by the Pacific Northwest Co., 501 Exchange Building, Seattle, Wash.)

Survivor or Buyer	Company or Property Acquired
Coleman & Assoc.	Doernbecher Mfg. Co.
Dant & Russell Inc. and Morris Hitchcock	Heppner Lumber Co.
Gales Peak Lumber Co.	Carnation Lumber Co.
Blyth & Co., Inc.	Oregon Mesabi Corp.
Hinde & Dauch Paper Co.	Corrugated Paper Box Co., Ltd.
Hines (Edward) Lumber Co.	Oregon Lumber Co.
International Paper Co.	Brown Corporation
Long-Bell Lumber Co.	M & M Longview, Wash., Plywood Plant
O'Donnell, et. al.	Kinzua Lumber Co. by Coleman & Assoc.
Powell River Co., Ltd.	Martin Paper Products, Ltd.
Rayonier, Inc.	Alaska Pine & Cellulose, Ltd.
St. Regis Paper Co.	Superior Paper Products Co.
Scott Paper Co.	Detroit Sulphite Pulp & Paper Co.
Scott Paper Co.	Hollingsworth & Whitney Co.
Scott Paper Co.	Westminister Paper Co., Ltd.
Southwest Lumber Mills, Inc.	Arizona Lumber & Timber Co.
U. S. Plywood Corp.	Associated Plywood Mills, Inc.

Lumber Production in the United States by Region, 1910-1953

Region (M bd. ft.)	1910	1920	1930	1940	1945	1950	1951	1952	1953
Northeastern	3,954,067	2,310,823	1,556,000	1,727,875	1,883,422	2,103,000	2,368,000	2,240,000	2,320,000
Lake States	5,030,106	2,414,351	1,500,000	1,015,176	923,052	1,065,000	963,000	1,279,000	1,115,000
Central & Prairie	4,751,957	3,043,964	2,030,000	2,507,986	2,321,432	2,426,000	2,190,000	2,034,000	2,134,000
South	17,432,424	15,231,862	12,080,000	12,677,790	10,876,566	13,896,000	12,818,371	12,185,000	11,730,000
West	8,849,728	12,098,800	12,192,021	13,231,299	12,117,872	18,462,000	18,891,000	19,720,000	19,931,000
TOTAL U. S.	44,500,000	34,999,800	29,358,021	31,159,126	28,122,344	37,952,000	37,204,000	37,458,000	37,230,000

Northeastern U. S. (New England; and Middle Atlantic States: Delaware, Maryland, N. J., N. Y., Pa.); **Lake States** (Mich., Minn., Wis.); **Central & Prairie** (Ill., Ind., Ky., Mo., Ohio, Tenn., W. Va., Nebr., Kan.); **South** (N. C., S. C., Va., Ala., Ark., Fla., Ga., La., Miss., Okla., Texas); **West** (Wash., Ore., Cal. and Nev., Ida., Mont., Utah, Colo., Wyo., Ariz., N. M., and S. Dak.).
*Includes Lake States.
Source: Forest Service & Bureau of Census.

No. of Sawmills & Latest Lumber Production for U. S. (by State) & Alaska

State	No. of Sawmills†	Lumber Production, M bd. ft. 1952 (or 1947*, latest year available)	Lumber Production, M bd. ft. 1953 (for major states)
Alabama	2,605	1,602,000	1,485,000
Alaska	55	80,480*	
Arizona	61	275,600	283,900
Arkansas‡	1,863	954,000	953,000
California & Nevada	884	4,578,000	5,122,000
Colorado	403	144,931	162,100
Connecticut	191	20,306*	
Delaware	146	33,644*	
Florida	659	533,579*	
Georgia	2,867	2,081,000	2,240,000
Idaho	388	1,106,000	1,123,000
Illinois	1,155	99,764*	
Indiana	937	180,266*	
Iowa	686	45,093*	
Kansas (see Nebr.)			
Kentucky	2,168	438,722*	
Louisiana	914	879,000	807,000
Maine	742	459,271*	
Maryland	716	153,809*	
Mass.	473	132,244*	
Michigan	1,899	580,097*	
Minnesota	1,525	244,363*	
Mississippi	1,899	1,043,000	934,000
Missouri	2,672	259,380*	235,000
Montana	407	593,500	645,300
Nebraska & Kansas	371	20,881*	
Nevada (see California)			
New Hamp.	479	322,509*	
New Jersey	238	32,423*	
New Mexico	162	107,182	118,100
New York	1,790	383,271*	
N. Carolina	4,588	1,740,000	1,756,000
N. Dakota	13	627,000*	
Ohio	1,644	265,452*	254,000
Oklahoma (see also Arkansas)	297	82,793*	
Oregon	1,466	9,037,000	8,410,000
Penna.	2,727	580,005*	
Rhode Isld.	23	2,544*	
S. Carolina	1,438	871,014*	
S. Dakota	70	35,451	36,000
Tennessee	2,567	619,000	563,000
Utah	142	44,708	50,100
Vermont	451	203,739*	
Virginia	3,101	1,188,000	1,200,000
Washington	808	3,607,000	3,752,000
W. Virginia	1,516	483,902*	
Wisconsin	1,776	485,806*	
Wyoming	170	74,556	87,700

†As of latest Census of Manufactures, 1947.
‡Lumber cut for Arkansas includes Oklahoma.
Source: Bureau of Census; Western Pine Association.

TOTAL NO. SAWMILLS, Incl. Alaska 53,164
TOTAL U. S. LUMBER PRODUCTION, Excl. Alaska (1953) ..... 37,230,000,000 bd. ft.

1954 Marked by Great Activity

In which the smaller green mills played a leading role; authority H. J. Cox here reviews the western lumber prices

H. J. "HERB" COX

THE TRADITIONAL HOLIDAY lull in the Green mill markets, together with adverse weather, were reflected in the low production and consumption of lumber during December 1953-January 1954, but during February, buying upturn gave impetus to volume and sales prices for the key item of 2x4 R/L No. 2 (25%) and Btr. and steadily advanced from $61 in January to $65 in March. Threats of Industry strikes created a buying stampede during the last week of April that elevated prices to $67 where they held steady until mid-June, when the impact of Strikes against the large mill division of the West Coast Industry immediately exploded prices to the all-year high of $85.

This market pressure for Green lumber caused the so-called "smaller mills" to forsake the cold-decking of logs for Winter operations and resulted in a still existing wild scramble for logs that continues to hold sales prices $12 or more above the level of a year ago.

The multitude of smaller Green mills is rapidly becoming more and more dependent on logs from Government timber and the fantastic prices being bid by smaller mill-log suppliers will tend to hold consumer prices at present high levels.

WHILE THE FOREST PRODUCTS Industry (large and small operators) are ardent proponents of free enterprise and competition, it is needless to say that the Industry is now in the economic cycle of the "survival of the fittest!"

As reported last year, the innumerable Green mills produce one-half of the total lumber produced in the Douglas Fir region of Oregon, Washington and California. Industry averages are not available, but the following tabulation is indicative of "smaller Green Fir mills" sales returns, including Wholesaler commissions on the last day of each calendar month covering the key item, 2x4 R/L No. 2 (25%) and Better:

	1954	1953	1952	1951
January	$61	$69	$77	$82
February	64	69	74	80
March	65	69	74	83
April	67	69	81	80
May	67	65	74	75
June	85	67	77	74
July	75	62	77	74
August	72	60	75	79
September	72	61	72	78
October	71	60	70	75
November	69	59	67	71
December	72	60	69	73

Throughout the year, the production and inventories of large mixed-car Pattern Clears (Shed items) were rather low, a condition partly attributable to the heavy drain on Clear logs for Plywood, but these mills were able to take care of customer needs and price changes were negligible.

THE MID-SUMMER STRIKE of extended duration contributed to subsequent market demand and a nominal increase in sales prices for $2 and Better KD Dimension.

The customary year-end low demand and price levels prevailed through the forepart of January, and followed by gradual increases from $76 in January to $81 in May for the key item, 2x4 R/L No. 2 (25%) and Better KD, other widths at established price differentials.

The mid-Summer Strike compelled mill withdrawal from the market but mid-August brought a mill market top of $94 followed by a slight downward trend to a year-end level around $90.

OFFSHORE BUSINESS during 1954, particularly from Australia and South Africa, was the market backbone of British Columbia and American cargo mills. Starting around $66, $3 up $3 down, in January, prices rose to $81 or slightly above in July, afterwards settling back to around $78 by the end of the year.

United Kingdom buying, principally from British Columbia mills, was handicapped by high freight costs during the latter part of the year and, except for Clear grades, buying was largely confined to European sources of supply. However, the turn of the year has brought renewed buying from B. C. mills.

EXCEPT FOR SHORT periods of quietude, the Atlantic Coast market held reasonably steady throughout the year. During the latter months, Intercoastal shipping mills were handicapped by lack of shipping space and beset by Labor Union inspired slow downs in the loading and unloading of ship cargo. Starting at $61 f.a.s. in January, 2" Fir Dimension reached an $80 high in June, followed by a gradual decline to $75 in December and now back to $77. Except for seasonal ups and downs and a November flurry caused by a railroad strike of short duration in Northwestern California, the California cargo market held steady throughout the year with prices ranging from $62 f.a.s. in January for 2" RWRL No. 2 and Better Fir Dimension to $72-$74 in December.

Waterborne lumber shipments for 1954 as compared with 1953, and based on reports to Pacific Lumber Inspection Bureau, Seattle, show the following:

Total Export	Total Domestic	Total Waterborne
Up 14%	Down 9%	Down 1/7 of 1%

	British Columbia	Ore., Wash., Calif.
Export	Up 28%	Down 6%
United Kingdom	Up 38%	Up 60%
Africa	Up 19%	Up 120%
Australia	Up 29%	Up 80%
Atlantic Coast	Down 5%	Down 12%
Domestic	Down 9%	Down 11%

Western Pine Market Strong

Except for Common grades, the markets for Western Pine and Associated species were relatively strong throughout the year. This was particularly true with regard to Selects in mixed cars or cars containing mixed thicknesses, also Shop; and the unabated demand for Pine Moulding stock was constantly confronted by supply scarcity.

MIXED AND PART cars of large mill No. 2 and Better Ponderosa held a steady market position around $120 to $130, but both large and smaller mill sales of straight cars, or surplus stock, especially in 8" and 10" widths, were considerably below mixed car prices. A slightly better market tone has been developing since last November.

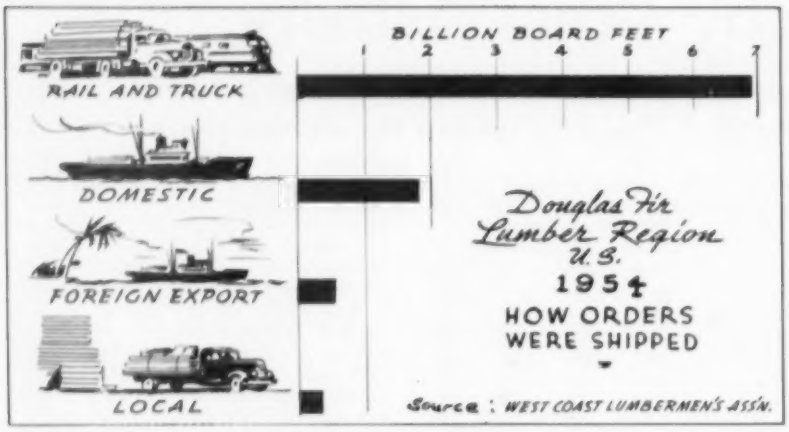
No. 3 Pine Common was susceptible to market trends but ended the year in reasonably satisfactory demand and price position.

Although No. 4 Pine Common, the heavy production grade, was feeling

(Continued on page 67)

Mr. Cox is president of the Lumbermen's Buying Service of Eugene, Ore., publishers of industry market reports.

Lumber



Production, Cost History and Number of Mills Operating in Douglas Fir Region, 1926-54

Year	Prod. Million Feet	Average Cost of Prod. Per M Feet	Cost Index (Per Cent)	No. of Active Mills
1926	10,285	$21.51	100.0	631
1927	9,902	21.16	98.4	580
1928	10,109	20.19	93.9	651
1929	10,290	21.15	98.3	883
1930	7,681	20.49	95.3	662
1931	5,400	16.02	74.5	535
1932	3,153	15.50	76.7	441
1933	4,348	16.20	75.3	606
1934	4,396	20.00	93.0	719
1935	5,113	19.28	89.6	670
1936	6,848	19.61	91.2	772
1937	7,067	21.72	101.0	818
1938	5,510	20.64	96.0	663
1939	6,945	19.52	90.7	699
1940	7,589	20.67	96.1	714
1941	9,176	24.37	111.3	906
1942	9,058	28.72	133.5	1,044
1943	8,669	31.88	148.2	1,012
1944	8,494	33.34	155.0	1,010
1945	6,586	35.35	164.3	986
1946	7,835	37.22	173.0	1,603
1947	8,962	47.50	220.8	1,888
1948	9,405	55.73	259.1	1,675
1949	9,135	52.70	245.0	1,242
1950	10,108	55.66	258.8	1,186
1951	10,416	63.28	294.2	1,367
1952	10,154	66.96	311.3	993
1953	9,584	....	....	900
1954*	9,526	....	....	950

*Preliminary figure

Source: West Coast Lumbermen's Association; compiled from statistics compiled by W.C.L.A., Bureau of Census and State of Washington.

Production of West. Hemlock Lumber in the United States

(M Bd. Ft.)

1899–	549	1943–	715,883
1905–	95,182	1944–	729,990
1910–	174,052	1945–	610,335
1915–	374,415	1946–	655,827
1920–	584,744	1947–	1,243,574
1925–	1,234,154	1948–	783,434
1930–	1,065,506	1949–	694,679
1935–	250,840	1950–	925,801
1940–	301,537	1951–	1,484,706*
1941–	434,908	1952–	1,070,800
1942–	545,815	1953–	1,038,000

*Includes Eastern hemlock for that year.
Source: Forest Service; Bureau of Census; West Coast Lumbermen's Association.

Production of Western Cedar Lumber in the United States

(M Bd. Ft.)

	Incense	Pt. Orford	W. Red
1941–	40,392	72,706	181,230
1942–	40,696	59,574	162,436
1943–	31,722	59,397	152,600
1944–	45,251	34,588	175,567
1945–	52,524	37,269	187,803
1946–	71,361	30,660	180,462
1947–	79,543	16,607	218,173
1948–	n.a.	n.a.	279,478[1]
1949–	35,317	7,469	221,346
1950–	51,377	n.a.	254,000
1951–	60,490	9,203	229,269
1952–	80,800	n.a.	244,800
1953–	n.a.	n.a.	229,000*

[1]All cedars. *Douglas fir region only

Production of Douglas Fir Lumber in the U. S. and Canada, 1869 to 1953

	Total U. S.	Oregon	Washington	California	Idaho	Montana	S. Rocky Mtn.	Br. Col.
1869	196,000	54,000	107,000	30,000	.....	5,000	.....	.....
1879	289,000	130,000	124,000	25,000	1,000	9,000	.....	.....
1889	1,206,000	301,000	847,000	25,000	3,000	30,000	.....	.....
1899	1,739,182	501,327	1,152,672	18,264	.....	.....	80	.....
1905	4,319,479	1,076,695	3,125,325	100,816	10,177	6,132	334	.....
1910	5,203,644	1,714,462	3,259,546	103,169	62,793	53,070	10,604	.....
1915	4,121,897	1,119,395	2,754,179	117,951	76,283	41,464	12,625	.....
1920	6,956,683	2,347,368	4,275,017	161,632	105,786	55,670	11,210	.....
1925	8,154,373	2,792,432	4,912,204	206,325	139,501	74,003	29,908	.....
1930	6,453,043	2,359,062	3,826,066	133,110	61,031	45,585	28,189	.....
1935	4,772,449	1,855,141	2,717,390	95,508	42,376	34,039	27,993	.....
1940	7,121,236	3,251,187	3,509,266	196,137	71,978	62,336	30,332	1,691,986
1941	8,531,845	4,069,319	3,973, 881	248,488	129,176	86,518	24,460	1,525,479
1942	8,549,755	4,247,204	3,696,903	290,216	177,501	96,663	41,268	1,534,419
1943	7,950,928	4,266,487	3,091,452	328,395	157,136	75,953	31,505	1,233,953
1944	7,863,952	4,324,795	2,887,981	365,787	155,225	89,720	40,444	1,140,691
1945	6,237,312	3,501,773	2,128,029	372,885	135,592	67,532	31,501	.....
1946	7,639,635	4,599,106	2,241,463	507,066	145,295	99,573	47,132	1,128,325
1947	9,043,403	5,436,722	2,501,414	768,866	187,062*	114,147	35,192	1,410,170
1948	9,793,737	5,977,447	2,430,361	952,529	302,751*	210,896	42,360*	1,514,118
1949	9,074,424	5,909,695*	2,310,855*	1,179,641	288,420*	311,704*	32,302*	1,593,556
1950	9,983,988	6,512,669*	2,287,324*	1,202,798	379,943*	342,884*	57,919*	1,738,101
1951	10,056,324	6,940,843*	2,344,887*	1,610,959	342,103*	126,379	38,754*	1,717,739
1952	10,539,700	6,905,957*	2,042,916*	1,718,300	345,409*	305,989*	41,785*	1,605,896
1953	10,685,300	6,389,600*	2,089,700*	1,500,000†	354,600*	300,600*	50,800*	1,700,000

†Unofficial—estimate only. *Includes Larch east of the Cascades.

Source: Forest Service; Bureau of Census; Western Pine Association.

Strike Was Major Factor in '54

But it gave Douglas fir lumber region the chance to show remarkable recovery power

A YEAR MARKED by a prolonged strike lasting 84 days stilled the saws of the Douglas fir region's 44 major cargo and dry mills long enough to plummet total production some 900 million board feet below 1953's whopping 10,335,403,000 board feet. Total 1954 output was 9,459,853,000 board feet, according to year end West Coast Lumbermen's Assoc. figures. The strike caused a loss of 800 million bd. ft. in orders and a billion bd. ft. in shipments.

Orders for the twelve months of 1954's cumulative production were broken down as follows: rail and truck 6,959,220,000 bd. ft.; domestic cargo 1,842,506,000 bd. ft.; export 485,172,000 bd. ft.; local 363,761,000 bd. ft. The industry's unfilled order file stood at 741,651,000 bd. ft. at the end of December, with gross stocks at 874,616,000 bd. ft.

The strike which tied up a majority of the cargo and mixed car mills in western Oregon and Washington in mid-summer was at the same time a blessing to the numerous smaller non-union green mills scattered throughout the area.

STIMULATED by the nation's peak construction year which skyrocketed new non-farm home starts to 1.2 million units, with industrial and commercial construction keeping pace, those usually part-time units just about took up the overall slack in big-mill production. The major railroad hauling nearly all the lumber out of Oregon estimated that its normal rail car shipping volume dropped only about 20 percent during the strike.

Mixed car shippers in Washington and those in Oregon, north of Cottage Grove, were down throughout much of the strike. A number of north central Calif. mills in the fir-pine region and some coastal mills in the redwood region were down for short periods. Southern Ore. mixed car mills operated throughout the summer.

While the smaller mills and those entering into "sweetheart" agreements with striking AF of L and CIO members capitalized on the situation by running on a 6 and 7 day three-shift schedule, the seeds of further possible production troubles were being sown. The shutdown occurred at a time normally given over to building roads for winter logging. Some log-hungry mills at the end of 1954 were beginning to feel the pinch of a scramble for logs as their cold decks shrank.

MANY SAWMILL operators, anticipating the demand for lumber in the years ahead, spent large sums of money modernizing their manufacturing plants. Others acquired substantial holdings of mills and/or timber.

Oregon led the nation in production, both in plywood and lumber of all species. Lane County, Ore., led the nation in Douglas fir lumber production with an output of about 1.3 billion bd. ft., a lead held since 1943. Strong runners-up are Douglas county, Ore. and Humboldt county, Calif., both in the billion ft. class.

WHAT'S THE LOOK ahead for 1955? **Bullish signs:** Apparent peace for at least a year, with acceptance by both management and labor of the 7½ cents per hour raise suggested by the governors' fact finding board, effective until April 1, 1956.

Bearish factors: (1.) A shortage of shipping space for movement of DF and west coast hemlock lumber to Atlantic coast markets, which could cripple output of cargo mills.

(2.) A possible freight car shortage may develop, b cause Class I railroads have fewer cars operating and too many laid up for major repairs.

(3.) Possible maneuvering by the government of home building credits to prevent inflationary influences.

During 1954 the Douglas fir industry continued its expansion southward into northern California and shipped more lumber into southern California by water. The famed redwood region actually is producing more Douglas fir than redwood.

CARGO LUMBER, such as that shown at this Douglas fir region mill yard awaiting shipment by rail and board, faces the prospect in 1955 of reduced available shipping space.

1954 Marked by Great Activity

(Continued from page 65)

the effects of Fir Plywood Sheathing competition during early Spring, market improvement during early Summer was followed by a short relapse but now the shortage of Fir Plywood Sheathing has been instrumental in marking No. 4 Ponderosa, as well as low grades in associated species, the outstanding demand items.

AMONG THE WESTERN Pines, Idaho White is King. With timber resources and production largely owned or controlled by a limited number of operators, the sale and distribution of this specie involves a minimum of effort and concern.

The Kilndried White Fir Dimension markets are influenced by Green Douglas Fir Dimension. Market demand held steady and firm at $66-$67 in January through May. In June and through September, the Industry Strike scare shot mill prices to $77-$80, but the wide price gap that developed between Kilndried White Fir and Green Douglas Fir brought a leveling off to $75-$77 by the end of the year.

INLAND FIR AND LARCH always follows in the wake of market trends affecting West Coast Douglas Fir Dimension and at established differentials slightly below the market levels for "Coast" Fir.

Aggressive sales promotion has brought Engelmann Spruce to the forefront and this species has become one of the most desirable woods now holding a strong and favorable competitive position with all softwoods. Western White Spruce is running a close second to Engelmann with the bulk of production coming from Western Canada.

The Western Sitka Spruce production of the olden days is now limited in the number of sawmills and total Industry production; consequently, demand is always in excess of supply. The so-called "Coast" stock, which should not be confused with altitude Spruce from the Olympic Peninsula, Queen Charlotte area of B.C. and Alaska, is fairly plentiful and commanded a good market throughout the year.

FEW MILLSITES ANYWHERE can match that of the Diamond Match Co. plant located near Superior Mont., for natural beauty of setting. Inside the plant can be found the latest lumber manufacturing and handling facilities. This huge plant completed its first full year of operation in 1954, a busy year for pine. (Photo by Western Ways, Corvallis, Ore.)

One of W. Pine's Best Years

as strikes and bugs were effectively countered; production nears 8 billion ft.

THE WESTERN PINE region had a good year volumewise in both lumber production and shipments despite a slow start and mid-year strike which affected from a few to many mills in Pacific Coast states. Although the strike-closed mills lost around 200 million feet of production during the 10 to 15-week strike period, mills which continued to operate more than made up for this loss by stepping up production.

Preliminary data indicate lumber production of 7,835,000,000 board feet and shipments of 7,964,000,000 feet in the Western pine region during 1954. This is apparently a new production record, just barely topping the previous high of 7,693,388,000 feet recorded in 1953.

A boom in residential construction contributed to demand for the region's lumber and lumber products.

PRICES FOR pine, white fir and spruce lumber in this region were off an average of $3 to $5 from the previous year. Realization on larch and Douglas fir held up better due to the strike-caused shortage of directly competitive West Coast fir.

Advances achieved in developing new products and processes assisted in furthering wood utilization. More short pieces are converted into long ones by fingerjointing (particularly notable is the production of fingerjointed mouldings) and narrow pieces combined by edge gluing; the chipping of by-product wood continues to expand, this in turn largely accounting for installation of whole-log barkers at several sawmills during the year.

MANUFACTURE of softboard and various types of hardboard took on significance in the region. This not only accelerated the recovery of by-product mill wood in the form of chips, but enhanced the utilization of white fir logs by at least one operating firm. Elimination of lumber defects by plugging came into wider acceptance and application.

The pine industry's tree farm program continued to expand by certification of 193 additional units, bringing the total to 652 as of Jan. 1, 1955. These embrace an area of 5,693,633 acres of forest land.

A MARKED TREND has been noted during the past year to improve storage of logs at the mills. Principal factors along this line concern increasing size of the ponds to get away from dry storage, bundling logs to increase volume capacity of the mill pond and keep stored logs in better condition by submergence. Sprinkling of decked logs has also come into wider acceptance as a means of minimizing degrade while in storage. In most cases where logs are bundled for pond storage at least one or more pondboats are used for efficient in-water transportation.

Production of Lodgepole Pine Lumber in the U. S.

M bd. ft.	M bd. ft.
1910–26,634	1944–72,301
1915–22,672	1945–65,358
1920–30,136	1946–86,220
1925–24,979	1947–99,600
1930–30,401	1948–95,496
1935–17,691	1949–98,275
1940–47,063	1950–103,052
1941–72,740	1951–139,476
1942–66,358	1952–149,365
1943–68,053	1953–141,828

Source: Bureau of Census & Forest Service; figures for 1950-53 reported as estimates by Western Pine Association.

Lumber Production in the Western Pine Region, By States, 1930-1953

(M board feet)	1930	1940	1947	1948	1949	1950	1951	1952	1953
Arizona	95,497	128,776	219,987	247,400	216,824	246,804	277,515	275,608	283,906
California & Nevada	1,513,938	1,954,231	2,424,850	2,607,690	2,327,263	2,820,497	2,806,575	2,719,573	2,677,727
Colorado	54,564	79,183	144,752	152,291	138,458	151,829	150,473	144,931	162,088
Idaho	839,759	773,293	950,137	1,108,592	1,050,809	1,259,382	1,021,883	1,083,429	1,157,079
Montana	296,970	325,315	499,741	597,884	586,875	639,982	552,291	593,500	645,281
New Mexico	142,885	112,786	126,925	124,608	118,449	124,041	129,756	107,182	118,096
Oregon (East Side)	989,569	1,673,789	1,400,787	1,504,027	1,379,311	1,559,194	1,522,437	1,472,363	1,531,721
Oregon (Jackson & Josephine)	14,000	20,000	93,017	128,304	113,559	75,532	152,100	154,875	159,953
South Dakota	59,464	40,250	57,648	35,380	35,321	34,197	28,205	35,451	36,023
Utah	6,306	15,615	37,915	44,485	41,593	46,002	43,917	44,708	50,123
Washington (East Side)	534,427	570,885	573,876	620,805	597,143	667,538	683,205	707,931	783,697
Wyoming	25,131	57,223	80,805	57,941	54,175	62,120	71,762	74,556	87,694
Total Western Pine Region Production	4,572,510	5,751,346	6,610,440	7,224,407	6,659,780	7,687,118	7,440,119	7,414,107	7,693,388

Source: Western Pine Association

Softwood Lumber Production in the Pine Region of the Twelve Western States for the Years 1969 to 1953

NOTE: The 12 states include Arizona, California, Nevada, Colorado, Idaho, Montana, New Mexico, Eastern Oregon (including Pine only in Jackson & Josephine counties), South Dakota, Utah, Eastern Washington and Wyoming.

Thousands of board feet

Year	Ponderosa Pine	Idaho White Pine	Sugar Pine	Larch Douglas Fir	White Fir	Engelmann Spruce	Other Woods	Total
1869	285,000	1,000	35,000	25,000	.....	.....	12,000	358,000
1879	338,000	2,000	25,000	31,500	.....	.....	34,000	430,500
1889	695,000	5,000	41,000	76,000	.....	.....	54,000	871,000
1899	945,933	10,285	53,558	130,537	.....	.....	46,309	1,186,622
1904	1,290,526	17,155	93,906	145,746	.....	.....	144,819	1,692,152
1905	988,542	115,678	123,085	149,300	52,190	.....	51,789	1,480,584
1910	1,562,106	248,435	103,165	508,383	114,901	.....	143,364	2,680,354
1915	1,252,244	419,792	115,109	513,870	105,278	.....	117,847	2,524,140
1920	2,270,898	338,193	145,906	672,663	249,051	.....	150,648	3,827,359
1925	3,122,351	489,770	304,218	787,669	301,816	.....	156,363	5,162,187
1930	2,586,110	548,920	198,216	460,241	168,241	.....	122,016	4,083,744
1935	2,527,251	469,185	188,456	356,830	78,059	.....	95,028	3,714,809
1940	3,609,631	537,139	353,967	528,967	101,172	.....	166,881	5,297,757
1941	4,243,868	489,826	366,422	702,891	168,390	.....	190,711	6,162,108
1942	4,024,614	388,724	333,733	884,601	224,473	.....	197,282	6,053,427
1943	3,866,983	343,401	270,694	860,932	270,155	.....	185,309	5,797,474
1944	3,760,467	298,476	310,115	923,003	394,498	.....	228,833	5,915,392
1945	3,052,602	240,397	223,442	802,361	411,588	.....	203,480	4,933,870
1946	3,615,054	244,413	327,160	1,081,968	606,449	.....	274,450	6,149,494
1947	3,901,300	242,000	340,300	1,239,900	588,100	102,100	196,700	6,610,400
1948	4,224,900	272,100	306,100	1,455,500	657,600	118,200	190,000	7,224,400
1949	3,922,000	282,700	286,800	1,299,700	567,800	132,100	168,700	6,659,800
1950	4,116,600	343,300	320,000	1,670,100	865,700	164,200	207,200	7,687,100
1951	3,793,800	266,800	375,800	1,614,200	973,400	147,600	268,500	7,440,100
1952	3,664,100	252,600	348,000	1,688,300	977,000	206,300	277,800	7,414,100
1953	3,733,800	246,900	377,400	1,697,800	1,016,100	354,300	267,100	7,693,400

Source: Compiled from statistics of Bureau of the Census, Forest Service and Western Pine Association and released by the Association. White Fir includes Red Fir (Abies Magnifica). Other Woods Include: Lodgepole Pine, Western Red Cedar, Incense, Cedar, Engelmann Spruce and Western Hemlock.

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Lumber

ONE OF THE REASONS for the sustained high production of redwood lumber is the number of medium-sized mills which have been established in the redwood region of northern California in the post-war decade, now just ending. The aerial photograph above, taken by Western Ways of Corvallis, Ore., shows the Twin Parks Lumber Co. mill at Arcata, which cuts 60 M. per shift.

Redwood Lumber Up 4% in 1954

Few species enjoy steadier demand, year-'round, than this versatile wood

A HEALTHY INCREASE IN forestry, lumbering and conservation activities in the Redwood Region during 1954 is reported from the California redwood region.

Late reports received from 20 companies by California Redwood Association show estimated increases over 1953 of 4% in redwood lumber production, 11 percent in shipments, and 13 percent in orders. The highest percentage of additional orders and shipments was for Eastern markets and orders ran well ahead of last year's totals in all areas. Total redwood production for the year by the reporting companies will approximate 600 million bd. ft.

Promotional activity for redwood was coordinated with production. Meetings were held with 13 groups of architects, builders, and lumber distributors at points throughout the country and assistance was given to specifiers and wholesale and retail lumber dealers in 15 major markets of which all but two were outside California. Several interesting developments reflect this work.

IN THE HOME building field, California ranch and contemporary styles are being used by many Eastern planners and national magazines used redwood in building model homes.

Construction of scrubbing towers and electronic precipitators for smog control is a rapidly growing industrial use of redwood which was stepped up during 1954, while a steady pace was maintained in the building of cooling towers and other redwood equipment.

Additional information on log breakdown was developed by the Association's Technical Division. This research set forth advantages of cutting cants on a headrig and sawing them into lumber with a gang saw. The report of this study influenced manufacturing procedures at several mills.

FORESTRY AND CONSERVATION activities in the Redwood Region included the establishment of California's first community forest at Arcata as the result of a proposal made by the local Circle of the Redwood Region Conservation Council. Nine new Tree Farms, comprising 73,939 acres, were certified. Fire prevention and forestry education projects were highly successful in reaching residents and visitors throughout the area.

OTHER REGIONAL HIGHLIGHTS are:

1. The Redwood Region Conservation Council is continuing its activity toward having vocational forestry and lumbering added to the curricula of the high schools in the region. Such courses are now authorized in 8 schools.

2. Humboldt County is taking the lead in studying county-wide relationship between lumbering and public welfare. A county forestry board has been created from a 17-man committee, a county forester was appointed on July 1, 1954, and an economic study was completed by Dr. Henry Vaux of the University of California.

3. Twenty redwood mills reported 1954 redwood and Douglas fir production of 747,183,000 bd. ft. The

(Continued on page 71)

Production of Redwood Lumber in United States

M bd. ft.	M bd. ft.
1899–360,167	1944–461,937
1905–411,689	1945–443,807
1910–543,493	1946–243,310
1915–418,824	1947–529,921
1920–476,003	1948–793,250
1925–510,639	1949–744,120
1930–403,072	1950–875,453
1935–328,862	1951–859,876
1940–388,845	1952–899,600
1941–455,536	1953–950,000
1942–461,552	1954–900,000
1943–460,829	

Source: Forest Service, Bureau of Census. Note: Figures for 1953 and 1954 are unofficial estimates, subject to revision.

Lumber Production in the State of California 1910-54

Year	Active Sawmills Reporting Number	M bd. ft.
1910	253	1,265,876
1915	136	1,119,458
1920	195	1,482,102
1925	173	2,042,991
1930	155	1,514,263
1935	189	1,355,713
1940*	240	1,954,500
1941	330	2,331,893
1942	311	2,330,041
1943*	365	2,352,592
1944	413	2,468,943
1945	457	2,260,792
1946	907	2,681,173
1947	884	3,408,522
1948	984	3,970,539**
1949	N.A.	3,811,642**
1950	N.A.	4,262,773**
1951	801	4,868,998**
1952	N.A.	4,843,100
1953	N.A.	5,122,000

*California only, no production reported from Nevada. In 1940, Nevada production was less than 50 M bd. ft., so is omitted here.
**Estimate.
Source: U. S. Forest Service, Bureau of Census.

Rapid Cost Rise Plagues B. C.

Doubled water freight rates tighten the all-important export situation

ANOTHER YEAR OF BIG production and steady demand, tempered by the effect of rising costs particularly in ocean freight rates, is the expectation of lumber operators in British Columbia in 1955.

	M bd. ft.		M bd. ft.
1910	1,169,907	1943	1,941,966
1920	1,443,270	1944	1,982,478
1925	1,724,832	1945	2,055,082
1930	1,928,598	1946	2,169,096
1935	1,610,347	1947	2,707,052
1936	2,023,708	1948	2,937,410
1937	2,072,675	1949	2,951,183
1938	2,044,876	1950	3,508,787
1939	2,276,033	1951	3,723,877
1940	2,324,408	1952	3,596,707
1941	2,407,800	1953	3,842,000
1942	2,303,552	1954*	4,250,000

*Preliminary Estimate

Since British Columbia relies so heavily on offshore exports, increasing cargo rates can be and are a serious consideration, and for the mills depending on open-market log purchases and on overseas sales, the prospect was not particularly bright during the early month of the year.

But, generally speaking, British Columbia lumbermen are optimistic. They have little doubt that they can sell all they produce, although probably at a substantially reduced margin of profit. L. L. G. Bentley, of Canadian Forest Products, Ltd., and president of the B. C. Lumber Manufacturers Association, put it this way: "We expect the mills to be busy this year cutting lumber for a good deal less money than they were receiving last summer. There may be more outward appearance of a favorable market than actually exists. The fact that ocean freight rates have approximately doubled during the past six months is of serious significance."

THIS POINT IS ALSO stressed by H. R. MacMillan, chairman of the board, MacMillan & Bloedel. He points out that the U. S. market greatly exceeds the Canadian market and that over 70% of the lumber produced in the B. C. coastal region is exported to more than 30 countries. The Canadian market, such as it is, has been narrowed by rail freight rates which have risen from about $23 ten years ago to about $36 now per thousand feet from the mill to the centers of population in Eastern Canada, while rising ocean rates have reduced the price for lumber at the mill to be exported in many cases a distance of 7,000 to 10,000 miles. B. C.'s lumber is produced in a protected economy and sold overseas in competition with the world. Another factor is that as the proportion of Douglas fir declines, lumber manufacturing profits shrink.

Labor costs have affected the industry, too, as never before. Wages represent 57 percent or more of the total cost of lumber production and the advance in real wages has continued to be about double the rise in the cost of living. Logging wages are up 115 per cent from 1945; sawmill wages up 111 percent; plywood plant wages up 121 percent.

COAST MILLS in B. C., benefited to some extent by increased orders from the U. S. during the time when many mills in the Northwest states were closed by strike, but this was a temporary situation.

No large new mills were built in B. C. last year, but many of them were equipped with improved machinery, and the trend continues towards increasing installation of barkers and chippers. In the woods, B. C. loggers kept abreast of the times with new equipment. More railroads were replaced by truck logging.

AN EVENT OF MAJOR importance to all sections of the industry is the new Royal Commission of inquiry into the province's forest resources undertaken by Chief Justice Gordon Sloan, who conducted a similar investigation ten years ago which resulted in initiation of the forest management license system designed to establish and maintain sustained yield.

Since that time there have been many revolutionary changes in the forest economy, and the new inquiry is expected to set a pattern for new legislation directly applying to the new conditions.

Redwood Lumber Up 4%

(Continued from page 70)

production for the entire region, including Douglas fir mills exceeded 2 billion board feet.

4. The second Junior Logging Conference was conducted in May and proved the desirability of making it an annual affair.

SUMMARIZING PROGRESS for 1954, the Association's 1954 president Russell H. Ells, Willits Redwood Products Co., Willits, Calif., states:

"The extent to which redwood is a 'specialty wood' is probably best demonstrated by the fact that outside of California its use averages only three board feet per capita per year, yet it is readily available in all of the 48 states. It is almost a textbook picture of the "wide, thin" market. Yet in spite of this distribution redwood goes into as many uses as any other American wood, possibly more.

"The diversity of end use has resulted in a stable demand, the ups and downs of any single market usually effecting redwood but little."

Who Gets the Redwood Lumber?

The following figures show the distribution of redwood lumber shipments to destinations by region, in M bd. ft.

	1950	1951
California	243,952	218,729
Western	10,242	7,484
Rocky Mtn.	7,021	6,230
Eastern	163,682	158,612
Export	889	1,926
U. S. Offshore..	5,664	5,382
TOTAL ...	431,450	398,363

	1952	1953
California	242,926	257,198
Western	11,430	11,986
Rocky Mtn.	9,690	10,169
Eastern	192,255	227,045
Export	812	493
U. S. Offshore ..	5,296	7,971
TOTAL ...	462,409	514,862

Source: California Redwood Association. Note: While the above table does not include all redwood lumber shippers, it does represent shipments made by mills cutting most of the redwood lumber.

Lumber Production in British Columbia, 1910-54

B. C. sawmills set new production records in 1954, both on the coast and in the interior. Coast mills rolled up a total production estimated at 2,700,000,000 bd. ft. and interior mills 1,555,000,000 ft., for a total for the province of 4,250,000,000 bd. ft., compared with a total in 1953 of 3,842,000,000 bd. ft., comprising 2,580,000,000 for coast and 1,262,000,000 for interior.

Source: B. C. Lbr. Mfrs. Assoc.

Lumber Production in Canada By Province, 1952 and 1953

• Canadian production and shipments of sawn lumber were moderately higher in 1953 than in 1952. The following is the estimated production for individual provinces:

M bd. ft.	1952	1953
British Columbia	3,696,629	3,807,262
Prince Edward Island	11,050	10,407
Nova Scotia	245,745	234,058
New Brunswick	263,614	353,827
Quebec	1,192,571	1,278,301
Ontario	838,948	817,809
Manitoba	54,485	60,148
Saskatchewan	79,856	74,075
Alberta	450,450	472,746
TOTAL CANADA	6,833,348	7,108,633

Source: U. S. State Dept.

Major Mill Cut

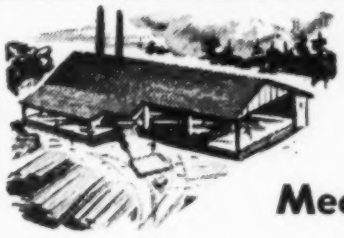
Production of Major Western Sawmills—1954

THE LUMBERMAN again presents its annual compilation showing the production of leading North American Sawmills. This list shows nineteen mills reported a production of 100,000,000 feet or more in 1954. Five years ago only 14 mills reported a cut or more than 100,000,000 feet and ten years ago 18 mills reported cuts of more than 100,000,000 feet.

The accompanying tabulation does not include the Weyerhaeuser mills whose combined cut in 1954 was slightly under one billion feet board measure. Some of the totals are for more than one mill. THE LUMBERMAN is grateful for the splendid cooperation it has received from lumber manufacturers everywhere and which made this survey possible.

Firm Name	Location	Lbr. Ft. BM
Potlatch Forests Inc., Lewiston, Ida.		301,361,000
Long-Bell Lumber Co., Longview, Wash.		135,866,803
	Weed, Calif.	65,000,000
	Vernonia, Ore.	60,824,529
	Gardiner, Ore.	45,334,999
	Eugene, Ore.	40,317,959
Fruit Growers Supply Co., Los Angeles, Calif.		176,000,000
Canadian Western Lbr. Co., Fraser Mills, B. C.		168,505,000
Coos Bay Lumber Co., Coos Bay, Ore.		165,415,192
McMillan & Bloedel,		
	White Pine Div., Vancouver, B. C.	158,541,000
	Alberni Pa. Div., Port Alberni, B. C.	136,320,035
	Chemanius Div., Chemanius B. C.	133,722,000
	Somass Div., Port Alberni, B. C.	124,885,000
Canadian Forest Products Ltd.,		
	Eburne Div., Vancouver, B. C.	151,738,686
Roseburg Lumber Co., Roseburg, Ore.		130,000,000
Edward Hines Lumber Co., Hines, Ore.		127,062,289
	Westfir, Ore.	69,997,751
Southwest Lumber Mills Inc., McNary, Ariz.		123,307,008
C. D. Johnson Lumber Corp., Toledo, Ore.		120,890,000
Diamond Match Co., Spokane, Wash.		119,837,000
Alaska Pine Co., Vancouver, B. C.		117,000,000
McCloud River Lumber Co., McCloud, Calif.		110,923,452
J. Neils Lumber Co., Libby, Mont.		104,931,692
	Klickitat, Wash.	45,973,450
Western Forest Ind. Honeymoon Bay, B. C.		103,939,000
The Pacific Lumber Co., Scotia, Calif.		99,310,000
B. C. Forest Products Ltd.,		
	Victoria Div., B. C.	96,200,000
	Cowichan Div., Youboo, B. C.	89,600,000
	Hammond Div., B. C.	50,400,000
	Vancouver Div., B. C.	32,000,000
Tahsis Company Ltd., Vancouver, B. C.		96,109,000
Hammond Lumber Co., Samoa, Calif.		94,966,000
Santiam Lumber Co., Lebanon, Ore.		94,574,535
Union Lumber Co., Fort Bragg, Calif.		94,000,000
Ralph L. Smith Lumber Co., Anderson, Calif.		92,774,000
Boise Payette Lumber Co., Boise, Ida.		92,272,972
VanVleet Lumber Co., Rainier, Ore.		89,256,753
Anaconda Copper Mining Co., Bonner, Mont.		86,856,537
Simpson Logging Co., Shelton, Wash.		86,690,068
Irwin & Lyons Inc., North Bend, Ore.		84,567,346
Ross Lumber Co., Medford, Ore.		78,766,000
Medford Corp., Medford, Ore.		75,795,000
Willamette Valley Lumber Co., Foster Ore.		74,464,000
	Dallas, Ore.	71,654,000
Diamond Lumber Co., Glenwood, Ore.		71,431,280
B. C. Mfg. Co., Ltd., New Westminster, B. C.		70,075,000
Pope & Talbot Inc., St. Helens, Ore.		69,200,000
	Oakridge, Ore.	66,600,000
	Port Gamble, Wash.	54,482,166
St. Paul & Tacoma Lbr. Co., Tacoma, Wash.		68,019,000
Brooks-Scanlon Lumber Co., Bend, Ore.		67,183,354
LHL Lumber Co., Carlton, Ore.		65,380,260
Ohio Match Co., Heutter, Ida.		64,100,000
Clemens Forest Prod., Ltd., Philomath, Ore.		62,842,518
Cascade Lumber Co., Yakima, Wash.		62,475,000
Robert Dollar Co., Glendale, Ore.		62,338,307
Hudspeth Pine Inc., Prineville, Ore.		61,692,325
Glenco Forest Products, Sacramento, Calif.		61,000,000
Kinzua Corp., Kinzua, Ore.		60,000,000
Booth-Kelly Lumber Co., Springfield, Ore.		59,859,220
McIntosh Lumber Co., Blue Lake, Calif.		59,634,087
Umpqua Plywood Corp., Fir Mfg. Div.,		
	Myrtle Creek, Ore.	59,505,780
Hillcrest Lumber Co., Mesatchie Lake, B. C.		59,360,346
U. S. Plywood Corp., Redding, Calif.		56,920,000
	Seattle, Wash.	28,400,000
	Mapleton, Ore.	13,418,000
Fortuna Sawmill Inc., Fortuna, Calif.		56,132,000
Schafer Bros. Lbr. & Shg. Co.,		
	Aberdeen, Wash.	55,894,850
Biles-Coleman Lumber Co., Omak, Wash.		55,763,000
Twin Feather Mills Inc., Kamiah, Ida.		55,045,000
Lincoln Lumber Co., Lincoln, Wash.		54,113,788
Alley Lumber Co., Medford, Ore.		52,069,471
Bate Lumber Co., Merlin, Ore.		51,000,000
M. B. King Lumber Co., Ltd.,		
	North Vancouver, B. C.	50,202,000
Walton Lumber Co., Everett, Wash.		50,000,000
C. W. Gurrier Lumber Co., Springfield, Ore.		49,986,400
Paul B. Hult Lumber Co., Dillard, Ore.		49,929,757
W. A. Woodard Lumber Co.,		
	Cottage Grove, Ore.	49,796,000
Pilot Rock Lumber Co., Pilot Rock, Ore.		49,407,500
J. Herbert Bate Co., Wallowa, Ore.		49,277,108
Pickering Lumber Co., Standard, Calif.		49,000,000
Klamath Basin Lumber Co.,		
	Klamath Falls, Ore.	46,961,640
Coos Head Timber Co., Coos Bay, Ore.		45,750,000
Cal-Ida Lumber Co., Auburn, Calif.		45,500,000
Scott Lumber Co., Burney, Calif.		45,340,000
Rockport Redwood Co., Rockport, Calif.		45,166,000
Pine Products Co., Pineville, Ore.		45,000,000
Intermountain Lumber Co., Missoula, Mont.		44,000,000
New Mexico Timber Co., Albuquerque, N. M.		43,800,000
Elk Lumber Co., Medford, Ore.		43,268,000
Dollar & Patterson Co., Inc., Glendale, Ore.		42,326,094
Westside Lumber Co., Toulumne, Calif.		42,000,000
Coast Pacific Lumber Co., Eureka, Calif.		41,545,573
Deer Park Pine Industries, Deer Park, Wash.		41,220,167
Fremont Sawmill Co., Lakeview, Ore.		41,163,000
L & K Lumber Co., Ltd.,		
	No. Vancouver, B. C.	40,702,305
Pacific Pine Co., Ltd., New Westminster, B. C.		40,470,920
Walter G. Brix Inc., Briceland, Calif.		40,066,000
Ponderosa Lumber Sales, Redmond, Ore.		40,000,000
Rosboro Lumber Co., Springfield, Ore.		39,968,000
Valzetz Lumber Co., Valsetz, Ore.		39,313,207
Blue Mountain Mills, John Day, Ore.		39,131,592
Timber Products Co., Medford, Ore.		39,072,165
California Barrel Co., Arcata, Calif.		39,000,000
Seaboard Lumber Co., Seattle, Wash.		39,000,000
Youngs Bay Lumber Co., Roseburg, Ore.		39,000,000
Winton Lumber Co., Martell, Calif.		38,825,725
Oceanside Lumber Co., Garibaldi, Ore.		38,645,123
White Line Lumber Co., Reno, Nev.		38,601,904
Eureka Redwood Lumber Co., Eureka, Calif.		37,562,337
Alexander-Stewart Lbr. Co., Prineville, Ore.		37,326,712
Schechert Lumber Co., Marysville, Calif.		36,542,300
Hollow Tree Lumber Co., Ukiah, Calif.		36,622,369
Mt. Emily Lumber Co., La Grande, Ore.		36,459,438
Gilchrist Lumber Co., Gilchrist, Ore.		36,308,000
High Sierra Pine Mills, Oroville, Ore.		36,277,620
Kappler Lumber Co., Mulino, Ore.		36,208,541
Tygh Valley Lumber Co., Tyng Valley, Ore.		36,000,000
Collins Pine Co., Chester, Calif.		35,915,370
Twisp-Wagner Lumber Co., Twisp, Wash.		35,825,000
Lions Gate Lumber Co., Ltd.,		
	No. Vancouver, B. C.	35,591,000

(Continued on page 74)



There's a Place in the "TIMBER PICTURE" for Medium and Small Mill Operators

The Northwest Lumber Industry vitally needs the services of the Independent Lumberman & Logger. These men can keep their place in the "Picture" as long as they operate progressively . . . modernize with equipment that cuts more lumber . . . salvages more of the log . . . slashes overhead. Gunderson Bros. specialize in that type of equipment . . . during the past year has introduced two basic pieces of equipment (see below) that increase profits, lower operating cost.

GUNDERSON BROS.

The Mill that moves to the woods!

Portable GANG SAW

Goes where the timber is . . . for big savings! The smaller the stand, the more you need the Gunderson *Portable* Gang Saw! No special foundation needed . . . level up the trailer frame with timbers. Move and start operating again the same day! A moderately priced, precision all-steel fabricated mill with real capacity and many great new features! Built-in GM Diesel power unit. (Electric power optional.)

TRAILER PORTABILITY

Channel steel Trailer Frame, wheel mounted at the saw end. Hook your logging truck to the carriage end. Maximum width 9′ 6″ at rear tires . . . lengths to fit your logs. Total weight, ready to operate, 35,000 lbs.

Single Sash Gang Saw . . . 24" by 26" opening . . . 35" from base of Gang Saw to top of infeed rolls. Water cooled guides; built-in water tank in trailer. Balanced all-steel alloy crankshaft . . . automatic pressure lubrication.

New!

- UPGRADES LUMBER
- BIGGER LUMBER YIELDS FROM YOUR LOGS
- RUGGED ACCURATE

Lumber-Saving CIRCULAR RESAW

Designed by Gunderson especially for low cost, easy, profitable timber salvage. Recovers extra board feet from every log in average timber . . . up to 250 lineal feet per min., depending on material. All-welded structural steel construction resists shock, lasts for years. Most of the features of a de luxe band saw at less than half the cost!

GUNDERSON GANG SAW

Features

BIG CAPACITY
30 to 40 M per day and up according to log diameters

SAWS LOGS OR CANTS
Maximum output of upper grade lumber from smaller logs. Boosts production . . . lowers operating cost!

OPTIONAL EQUIPMENT
Available as a Stationary Gang Saw or complete, Portable Mill. Order with or without trailer.

Write or Wire for Complete Information and Prices

GUNDERSON BROS. ENGINEERING CORPORATION
Steel Fabricating Division
4700 N. W. Front Avenue
Portland 8, Oregon

Major Mill Cut

(Continued from page 72)

Firm Name	Location	Lbr. Ft. BM
Paul Bunyan Lumber Co.,	Susanville, Calif.	35,578,872
Timber Land Lbr. Co.,	New Westminister, B.C.	35,500,000
Stebco Inc.,	Vancouver, Wash.	35,467,181
Calgar Development Co. Ltd.,	Vancouver, B. C.	35,300,000
Ft. St. John Lumber Co., Ltd.,	Dawson Ck., B. C.	35,000,000
Snellstrom Lumber Co.,	Eugene, Ore.	35,000,000
Wilbur Lumber Co.,	Wilbur, Ore.	34,900,000
Flavelle Cedar Ltd.,	Port Moody, B. C.	34,854,000
Oregon Lumber Co.,	Baker, Ore.	34,440,691
	Dee, Ore.	22,763,010
Olympic Hardwood Co.,	Raymond, Wash.	34,279,221
Cape Arago Lumber Co.,	Empire, Ore.	34,184,000
Harris Pine Mills,	Pendleton, Ore.	33,601,690
Simpson Logging Co.,	Klamath, Calif.	33,579,000
Western Studs,	Arcata, Calif.	33,376,000
Sacramento L & B Co.,	Woodleaf, Calif.	33,300,000
Dwyer Lumber Co.,	Portland, Ore.	33,169,351
Michigan Calif. Lumber Co.,	Camino, Calif.	33,104,000
Moore Whittington Lbr. Co.,	Victoria, B. C.	32,657,000
Midstate Lbr. & Sup. Co.,	Prineville, Ore.	32,500,000
Moore Mill & Lbr. Co.,	Bandon, Ore.	32,222,131
Nettleton Timber Co.,	Seattle, Wash.	32,119,000
Fisher Lbr. Co.,	Marcola, Ore.	32,000,000
Northern Redwood Lbr. Co.,	Korbel, Calif.	31,838,226
Arcata Redwood Co.,	Arcata, Calif.	31,500,000
Stomar Lbr. Co.,	Eugene, Ore.	31,500,000
Crane Mills,	Paskenta, Calif.	31,283,900
Trask Lbr. Co.,	Tillamook, Ore.	31,274,009
Anderson & Middleton,	Aberdeen, Wash.	31,069,054
Eclipse Lumber Co.,	Everett, Wash.	31,068,000
Quincy Lbr. Co.,	Quincy, Calif.	30,969,000
Columbia-Hudson Lbr. Co.,	Bradwood, Ore.	30,470,841
Blagen Lbr. Co.,	White Pines, Calif.	30,165,590
Consumers Co-Op Assn.,	Swisshome, Ore.	30,000,000
Warm Springs Lbr. Co.,	Warm Springs, Ore.	30,000,000
St. Maries Lbr. Co.,	St. Maries, Ida.	30,000,000
Shepard & Morse Lbr. Co.,	Westport, Ore.	29,834,167
Sound Lumber Co.,	Arcata, Calif.	29,834,159
Evans Products Co.,	Coos Bay, Ore.	29,772,644
Broughton Lumber Co.,	Underwood, Wash.	29,574,000
Trinity Alps Lbr. Co.,	Hayford, Calif.	29,296,410
Burnt River Lbr. Co.,	Baker, Ore.	29,168,540
R. R. Crow & Co.,	Saratoga, Wyo.	29,000,000
Stimson Lumber Co.,	Forest Grove, Ore.	28,578,895
Corvallis Lumber Co.,	Corvallis, Ore.	28,199,000
Danebo Lumber Co.,	Eugene, Ore.	28,100,000
Ellingson Lbr. Co.,	Baker, Ore.	28,000,000
Smith River Lbr. Co.,	Drain, Ore.	27,808,875
Consolidated Pine Inc.,	Prineville, Ore.	27,808,000
Portland Lumber Mills,	Portland, Ore.	27,458,903
Associated Plywood Mills,	Roseburg, Ore.	27,450,000
Kaibab Lumber Co.,	Fredonia, Ariz.	27,313,620
S. M. Simpson Ltd.,	Kelowna, B. C.	27,310,000
Bay City Lumber Co.,	Aberdeen, Wash.	27,000,000
Giustina Bros.,	Eugene, Ore.	27,000,000
Harold E. Casteel Inc.,	Ukiah, Calif.	29,944,280
Car-Ad-Co,	Klamath Falls, Ore.	26,750,000
Associated L & B Co.,	Wilseyville, Calif.	26,472,124
Humboldt Lumber Co.,	Arcata, Calif.	26,429,098
Inman-Poulson Lbr. Co.,	Portland, Ore.	26,377,462
Oregon Pulp & Paper Co.,	Salem, Ore.	26,163,232
Buchanan Lumber Co.,	Olympia, Wash.	26,143,215
Ochoco Lumber Co.,	Prineville, Ore.	26,116,000
Clover Valley Lumber Co.,	Loyalton, Calif.	25,867,720
Double Dee Lumber Co.,	Central Point, Ore.	25,828,000
Peshastin Lbr. & Box Co.,	Peshastin, Wash.	25,731,000
Browns Tie & Tbr. Co.,	McCall, Ida.	25,431,000
Klamath Lbr. & Box Co.,	Klamath Falls, Ore.	25,407,335
Heron Mills,	Central Valley, Calif.	25,374,513
L. Cardiff Inc.,	Pierce, Ida.	25,250,000
Lithia Lumber Co.,	Ashland, Ore.	25,062,000
American River Pine Co.,	Foresthill, Calif.	25,000,000
Stimson Mill Co.,	Seattle, Wash.	25,000,000
Kootenay Forest Products Ltd.,	Nelson, B. C.	24,994,000
E. K. Wood Lbr. Co.,	Reedsport, Ore.	24,813,753
Burkland Lumber Co.,	Turner, Ore.	24,735,601
Long-Lake Lumber Co.,	Spokane, Wash.	24,000,000
Wildwood Lumber Co.,	Platine, Calif.	24,000,000
Holmes-Eureka Lbr. Co.,	Eureka, Calif.	23,844,684
Sugar Pine Lbr. Co.,	Arcata, Calif.	23,814,000
Moore Timber Prod. Co.,	Grants Pass, Ore.	23,800,000
Wauna Lumber Co.,	Wauna, Ore.	23,775,564
Hallock & Howard Lbr. Co.,	Winchester, Ida.	23,774,000
Kogap Lumber Ind.,	Medford, Ore.	23,449,260
Packwood Lumber Co.,	Packwood, Wash.	23,241,072
Anglo-Canadian Lbr. Prod.,	No. Vancouver, B. C.	23,020,039
Dickman Lumber Co.,	Tacoma, Wash.	23,000,000
Brownsville Sawmills Ltd.,	New Westminster, B. C.	22,971,000
Modoc Lumber Co.,	Klamath Falls, Ore.	22,775,000
Douglas County Lbr. Co.,	Roseburg, Ore.	22,703,000
Air King Mfg. Co.,	Tigard, Ore.	22,300,000
Caldwell Lbr. & Box Co.,	Caldwell, Ida.	22,220,000
Spangler & Lorenz Lbr. Co.,	Spalding, Ida.	22,000,000
M. R. Prestridge Lbr. Co.,	Alamogordo, N. M.	21,750,000
Monroe Lumber Co.,	Eugene, Ore.	21,500,000
Cabax Mills,	Grants Pass, Ore.	21,450,000
Hult Lumber Co.,	Junction City, Ore.	21,382,000
Wood Products Corp.,	Chehalis, Wash.	21,248,200
Seattle Ced., Lbr. Mfg. Co.,	Seattle, Wash.	21,218,615
Kingsley Lumber Co.,	Portland, Ore.	21,000,000
Harbour Sawmills Ltd.,	Victoria, B. C.	20,752,000
Nalos Lumber Ltd.,	Vancouver, B. C.	20,500,000
Magnolia Lumber Co.,	Rogue River, Ore.	20,290,752
Ukiah Pine Lbr. Co.,	Potter Valley, Calif.	20,102,000
Graeagle Lumber Co.,	Graeagle, Calif.	20,107,404
Eagle Lake Sawmills Ltd.,	Giscome, B. C.	20,000,000
Tite Knot Pine Mills,	Redmond, Ore.	19,750,000
Columbia Valley Lbr. Co.,	Bellingham, Wash.	19,661,145
Wetsel-Oviatt Lbr. Co.,	Omo Ranch, Calif.	19,537,280
Standard Lbr. & Mfg. Co.,	Carlsborg, Wash.	19,450,000
A. F. Lowes Lbr. Co.,	Mollala, Ore.	19,247,000
White Pine Lumber Co.,	Alturas, Calif.	19,072,274
Caldor Lumber Co.,	Diamond Springs, Calif.	18,873,860
Jones Lumber Co.,	Portland, Ore.	18,750,000
Trinity Nat., Lbr. Co.,	Ft. Seward, Calif.	18,459,719
Everett Lumber Co.,	Everett, Wash.	18,218,319
Feather Riv. Pine Mills,	Feather Fls., Calif.	18,007,547
Fall Creek Lumber Co.,	Fall Creek, Ore.	17,821,180
Am. For. Pro. Co.,	Lakeview, Ore.	16,638,810
Mt. Shasta Pine Mfg. Co.,	Mt. Shasta, Calif.	16,133,720
Stockton Box Co.,	Stockton, Calif.	15,950,000
Murphy Lumber Co.,	Grand Ronde, Ore.	15,600,700
Manning Timber Pro. Co., Ltd.,	Victoria, B.C.	14,000,000
Meadow Valley Lbr. Co.,	Quincy, Calif.	15,407,000
Picco Logging Co.,	Montesano, Wash.	15,000,000
Eureka Mills,	Nanaimo, B. C.	15,000,000
Calvada Lumber Co.,	Quincy, Calif.	14,534,000
Placerville Lbr. Co.,	Placerville, Calif.	12,000,000
Assoc. Lbr. & Box Co.,	Dorris, Calif.	11,716,126
Mt. Whitney Lbr. Co.,	Johnsonville, Calif.	9,500,000
Aloha Lumber Co.,	Aloha, Wash.	8,328,000

Klamath Basin Pine Mills Co.

KILN DRIED

KLAMATH SOFT PINE and DOUGLAS FIR

Finish and Shop Lumber—Commons and Mouldings

BOX SHOOK

Annual Capacity 50,000,000 Feet

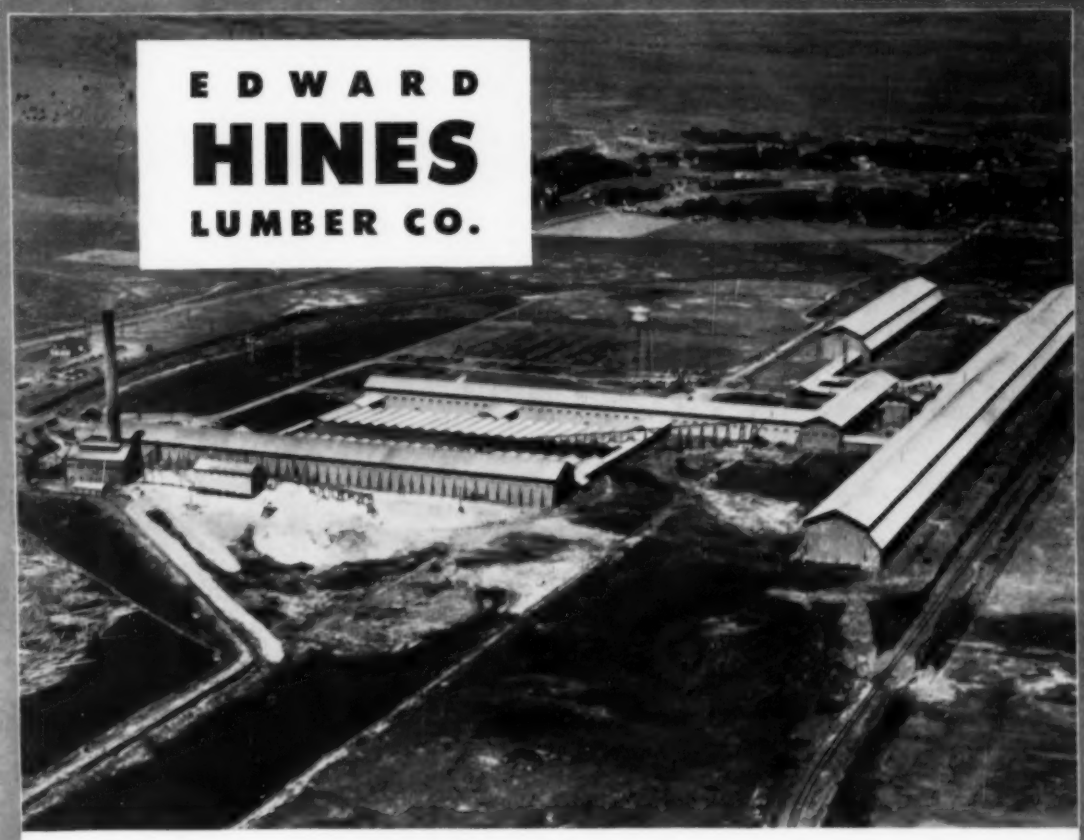
* * *

CHILOQUIN TIMBER CO.

BOX 1051—KLAMATH FALLS, OREGON—PHONE 4135

Logging Camp Office: Box 385, McCloud, California—Phone 161-F1

Lumber



Why are we one of the

LARGEST WHOLESALERS IN AMERICA?

We believe that it is because over a period of 62 years we have given our mill connections the best possible representation. The customer is not always right. An honest difference of opinion as to grade, count, degree of dryness, or faulty manufacture can best be handled by a salaried representative who is trained to give the same attention and care to your shipments as he does to shipments from our own mills.

GOOD LUMBER
Good lumber, properly manufactured, properly represented, will always command a good price.

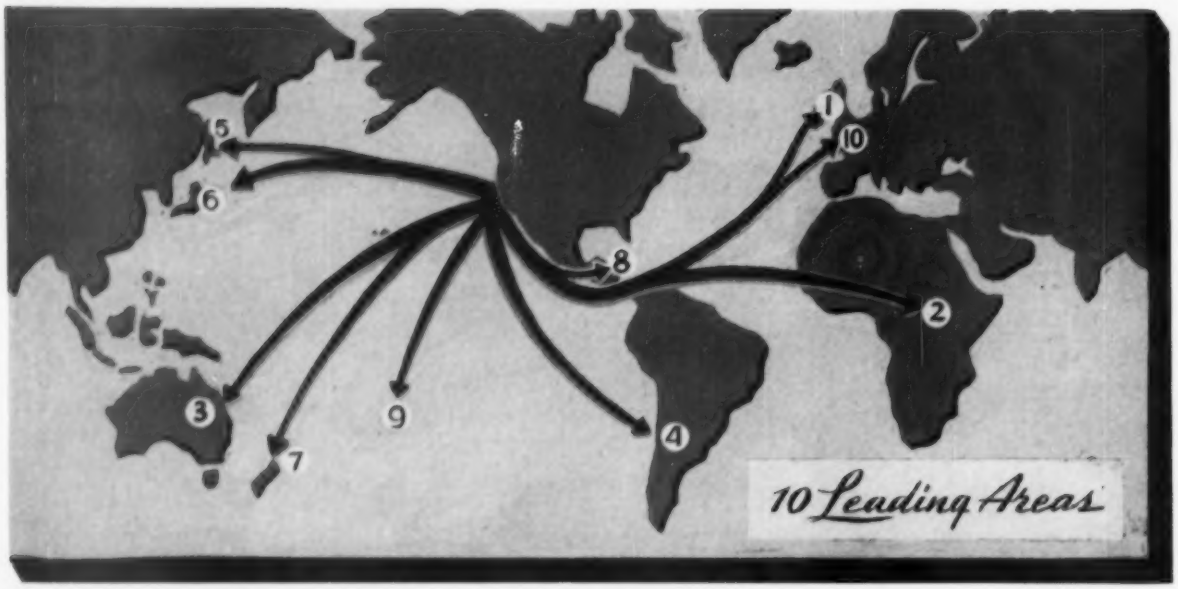
GOOD REPRESENTATION
We solicit the accounts of mills who want good representation in the years to come, when salesmanship and integrity are again factors in the distribution of lumber products.

EDWARD HINES LUMBER CO.
77 W. WASHINGTON ST., Dept. L-3 • CHICAGO 2, ILL.
ESTABLISHED 1892

PORTLAND OFFICE
Terminal Sales Bldg.
Portland 5, Oregon
Phone: ATwater 2388

SPOKANE, WASHINGTON, E 17 34th AVENUE • SACRAMENTO, CALIFORNIA, 2726 Q STREET • HINES, OREGON

Lumber



Waterborne Shipments of Lumber From Washington, Oregon, California & B. C. to Various Foreign Markets According to Rank 1951-1954

Rank	1951	Rank	1952	Rank	1953	Rank	1954
1. United Kingdom	1,071,972,839	1. United Kingdom	845,819,915	1. United Kingdom	545,862,737	1. United Kingdom	761,493,061
2. Australia	195,483,978	2. Africa	145,451,359	2. Africa	165,954,902	2. Africa	239,793,933
3. Africa	168,120,665	3. Australia	91,009,581	3. Australia	134,543,137	3. Australia	194,923,293
4. So. America (W. Coast)	37,551,192	4. So. America (W. Coast)	35,447,582	4. Japan	75,791,902	4. So. America (W. Coast)	29,443,341
5. Israel	31,760,456	5. Arabia	14,410,212	5. So. America (W. Coast)	34,388,659	5. Korea	28,721,800
6. China, Hong Kong, Formosa	26,504,343	6. New Zealand	12,878,040	6. India	18,679,271	6. Japan	25,488,128
7. South Sea Islands	17,824,668	7. South Sea Islands	12,477,043	7. South Sea Islands	16,254,341	7. New Zealand	16,727,748
8. Japan	17,077,926	8. Japan	10,654,774	8. West Indies	12,296,912	8. West Indies	12,267,013
9. Arabia	14,801,121	9. China, Hong Kong, Formosa	9,542,864	9. Belgium	12,161,494	9. South Sea Islands	10,999,135
10. New Zealand	13,566,920	10. So. America (E. Coast)	5,693,353	10. China, Hong Kong, Formosa	11,338,463	10. Holland	8,308,329
11. Belgium, (incl. Holland)	13,514,678	11. Belgium	4,612,408	11. Holland	6,659,610	11. France	8,306,415
12. So. America (E. Coast)	11,747,264	12. Germany	4,526,007	12. New Zealand	6,169,281	12. China, Hong Kong, Formosa	8,198,081
13. West Indies	9,976,055	13. France	3,964,953	13. France	5,460,103	13. Belgium	7,416,862
14. India	8,998,473	14. West Indies	3,478,993	14. Korea	4,073,370	14. India	6,799,080
15. Greece	8,210,573	15. Holland	3,405,275	15. Germany	3,714,349	15. Eire	4,588,826
16. Eastern Canada	6,614,549	16. Italy	2,307,106	16. Italy	2,441,594	16. Germany	4,455,887
17. Germany	5,934,054	17. Denmark, Norway, Sweden	1,779,548	17. Israel	1,987,666	17. Italy	4,044,013
18. France	4,583,961	18. India	1,754,281	18. So. America (E. Coast)	1,657,069	18. Israel	2,430,146
19. Eire	3,305,476	19. Central America	1,718,870	19. Eire	1,279,600	19. Denmark, Norway, Sweden	1,908,941
20. Denmark, Norway, Sweden	2,501,173	20. Israel	1,442,087	20. Arabia	1,189,632	20. So. America (E. Coast)	1,456,288
21. Central America	2,226,075	21. Eastern Canada	1,026,491	21. Denmark, Norway, Sweden	1,075,019	21. Arabia	818,310
22. Italy	1,682,622	22. Greece	61,212	22. Philippines	1,000,382	22. Eastern Canada	785,441
23. Mexico	300,411	23. Unclassified	130,582,909	23. Eastern Canada	906,668	23. Greece	586,887
24. Unclassified	39,141,625			24. Central America	824,409	24. Central America	5,960
				25. Greece	350,655	25. Unclassified	137,507,442
				26. Mexico	200,726		
				27. Unclassified	267,165,667		
TOTAL	1,713,401,097	TOTAL	1,344,650,091	TOTAL	1,333,427,618	TOTAL	1,517,474,340

Origin of Waterborne Shipments of Lumber By the Various States and B. C. 1951-54

	1951	1952	1953	1954
British Columbia	1,146,291,685	1,148,052,422	1,391,664,206	1,579,945,430
Washington	764,157,039	703,860,563	802,930,417	685,025,368
Oregon	1,167,896,890	1,238,454,762	1,214,439,670	1,117,916,643
California	14,740,955	45,781,595	93,757,118	114,688,986
TOTAL	3,093,086,569	3,136,149,342	3,502,791,411	3,497,576,427

NOTE

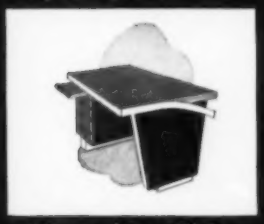
All figures given are in feet board measure. Source: Pacific Lumber inspection bureau.

FOUR reasons why Monsanto gives you better adhesives and finer service

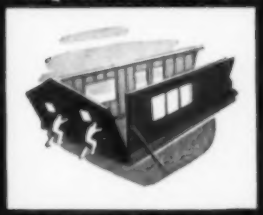
Upgrade the quality of your bond with Monsanto adhesives

In Timber Laminating . . .

Plywood production . . .



Edge and Core Gluing . . .



Prefab Applications . . .

General Assembly . . .

Meet more Monsanto products on CBS-TV's "Morning Show"

1 Monsanto has one of the broadest lines of wood glues, produced under highest quality-controlled production standards.

2 Monsanto's expanded research program is constantly developing new adhesives and new techniques.

3 Monsanto's technical experts in the field are ready to advise and assist you in all your production problems.

4 Fast service from conveniently located plants from coast to coast.

A GLUE FOR EVERY USE
From Monsanto, World's Leading Supplier of Adhesives

Melamine . . . comparable to the phenolics and resorcinols in durability, and used in wood gluing applications where a colorless glue line is essential.

Urea . . . Monsanto has a comprehensive line of powder and liquid urea resins widely used for plywood manufacture. Also for edge gluing of lumber in clamps or by high frequency, and for tapeless splicing of veneers.

Phenolic . . . in powder and liquid form as adhesives for exterior plywood or other wood assemblies which are subject to extreme exposure conditions.

Resorcinol . . . the only completely durable adhesives which will cure at room temperature. Used in ships' keels, laminated rafters, prefabricated housing, etc.

Casein . . . supplied as dry powders; particularly well adapted to assembly gluing, laminating, prefabricated housing operations, etc.

Soybean and Soybean Blend . . . low-cost, easy to handle, unexcelled for production of water-resistant plywood by cold and hot press and No-Clamp methods, for interior-grade plywoods.

Vinyl acetate . . . a white free-flowing emulsion, easy to apply and modify with extenders or fillers. Exceptionally strong and durable. For prefab home wall panels, bonding decorative laminates to plywood, wood joint bonding, etc.

For full information on Monsanto's complete line of adhesives sold west of the Rocky Mountains, write to MONSANTO CHEMICAL COMPANY, 911 Western Avenue, Seattle 4, Washington.

MONSANTO

SERVING INDUSTRY... WHICH SERVES MANKIND

Lumber

OVER 100,000 ACRES of timberland stands back of this mill, completed in 1954 by the Allison Lumber Co. at Bellamy, Alabama. This modern electric sawmill produces nearly half a million board feet of Southern pine and hardwood lumber per week on one shift. Another southern sawmill, Kirby Lumber Co., Silsbee, Tex., is due to come into production in '55.

South Had Near-Normal Year

But the small portable mills felt a pinch because of stumpage costs

STARTING INAUSPICIOUSLY with declining demand due to general business slackening, the southern lumber industry found itself in a much stronger position at 1954's close. Total production of southern pine for the year has been estimated at between 7.5 and 8.5 billion feet, a decrease of approximately four percent from the previous year.

The latter weeks of the year found demand on the upswing that carried over into the new year with booming of housing starts and revival of business confidence. In hardwoods, favorable reports from furniture shows and improved demand presented an improved picture at year's end, compared with its beginning.

WITH STUMPAGE remaining high priced, portable mills were pinched between that element and a lowered green lumber price scale. As a result, many ceased operation, creating a sales vacuum for supply houses and small mill manufacturers.

Resulting from the 1954 economic pinch, there resulted greater emphasis on need of modern, efficient machinery for sawmilling, particularly in the small mill field. Here hydraulic carriages have drawn added interest. Intermediate and large mills have gone farther in acquisition of better machinery that will reduce labor cost per thousand feet and manufacture an improved product. Many planing mills and flooring plants have been improved or new ones built.

Barking and chipping of pine logs became a reality among sawmills during the year and promises to expand during the coming period.

DESPITE SOME WEATHER handicaps lumber production in the Northeast—New York, Pennsylvania and New England, was what might be considered near normal in 1954. Production has been estimated at about two billion feet of which about sixty-five percent was softwood and 35 percent hardwoods. Had it not been for wet weather which hampered logging nearly all season, production likely would have been considerably greater. For instance one of the larger operators produced only about 17,000,000 feet in 1954 as compared with nearly 21,000,000 feet in 1953. On the other hand some mills produced more lumber in 1954 than in 1953, but on the whole output was less than in 1953.

R. E. Broderick, executive secretary of the Northeastern Lumber Manufacturers Association, has pointed out that one feature of the year was the large production of thick pine selects. This was due to the opening up to logging of some heretofore inaccessible areas.

Production of Southern Pine Lumber in U. S., 1869-1954

	M bd. ft.		
1869–	1,378,000	1942–	11,761,397
1879–	2,379,000	1943–	9,961,589
1889–	4,220,000	1944–	8,132,194
1899–	9,669,641	1945–	7,210,066
1905–	8,771,966	1946–	9,375,859
1910–	14,143,471	1947–	9,473,360
1915–	12,177,335	1948–	Not available
1920–	8,964,313	1949–	8,258,694
1925–	13,235,936	1950–	9,939,069
1930–	7,450,238	1951–	8,495,000
1935–	5,960,246	1952–	8,775,000
1940–	10,162,966	1953–	8,854,000
1941–	10,338,693	1954–	8,314,000*

*THE LUMBERMAN's estimate, based on third quarter 1954 totals estimated by National Lumber Mfrs. Assn.

Source: Forest Service, Bureau of Census.

Lake States Softwood Cut Was Down Slightly

WITH SOME EXCEPTIONS lumber production in the Lake States region showed some decline in 1954 as compared with 1953. This was due among other things to two major reasons. First, the Ford Motor Company's mill at L'Anse, Mich., cut only 11,774,000 feet last year compared with 23,321,000 feet in 1953 and has closed permanently, and so out of production. Second, the failure of the railroads to purchase any great volume of ties drastically reduced the production of a good many small hardwood tie mills.

So unless some unexpected demand for lumber develops the industry looks for rather restricted production this year.

THE MAPLE FLOORING section of the industry looks for increased demand in 1954. Production of maple flooring in 1954 was 6 percent greater than in 1953. L. M. Clady, secretary-manager of the Maple Flooring Manufacturers Association has estimated that according to MFMA surveys shipments of maple flooring in 1954 should increase approximately 8 percent over the 1954 total of 49,000,000 feet. This increase will be due in part to the large anticipated school building program.

Demand for Lake States' softwoods was helped last year by the protracted strike in the Douglas fir region. However, softwood production in the Lake States now represents only about twenty percent of the total production of the area.

MORE ACCESS ROADS are needed in the Northeast Region to open up the timbered areas. The industry is well aware of the need of road construction in order that logs may be available to maintain the production of both softwoods and hardwoods.

The present market outlook is considered generally bright and if public and private building continues on the scale now indicated and weather is favorable more lumber, both hard and soft, should be provided in 1955 than was cut in 1954.

Production of Oak Lumber In Eastern United States

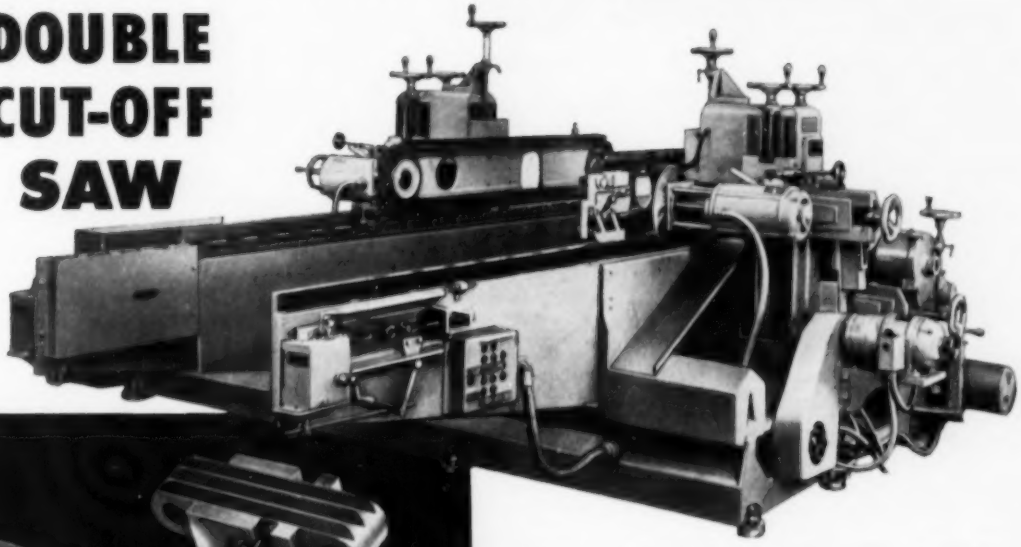
M bd. ft.			
1899–	4,549,805	1945–	2,858,342
1910–	3,514,831	1947–	3,192,842
1920–	1,853,426	1948–	3,377,516
1930–	1,661,362	1949–	2,518,208
1935–	1,194,457	1950–	3,346,749
1940–	1,467,137	1951–	3,562,379
1941–	2,207,691	(No later figures available.)	
1942–	2,762,204		
1943–	3,037,979		
1944–	3,291,123		

Source: Forest Service; Bureau of Census.

All Welded Steel Construction

on the MEREEN-JOHNSON NO. 300

DOUBLE CUT-OFF SAW



with the MULTI-V CHAIN

This special chain is furnished on the M-J No. 300. Note the 45° angle of the three V grooves to prevent sideways movement. The inverted center link clearly illustrates the full length bearing surface in both horizontal and vertical planes. There is approximately 55% greater horizontal and 95% more vertical bearing area than with low angle single V-chain. Patented snap dogs are standard equipment.

The No. 300 is offered to meet varying working conditions. It can be equipped with regular or high speed cope motors, stationary or jump dado arbor or other accessories as required. The sturdy, welded steel construction . . . rubber block hold-downs . . . snap-on feed dogs . . . and variable feed drive are only a few of its outstanding features.

Write for the No. 300 Bulletin

MEREEN-JOHNSON MACHINE CO.

4401 LYNDALE AVE. NO. • MINNEAPOLIS 12, MINNESOTA

CUT-OFF SAWS	DOUBLE CUT-OFF SAWS	MULTIPLE CUT-OFF SAWS	GANG RIP SAWS
TENONERS	VENEER & PLYWOOD SIZERS & JOINTERS		RESAWS

Major Mill Cut

Production of Major Southern Sawmills—1954

Name	Location	Ft. BM
Dierks Lbr. & Coal Co.,	Kansas City Mo.	85,500,000
Southern Pine Lumber Co.,	Diboll, Texas	66,806,042
Frost Lumber Industries,	Shreveport, La.	65,000,000
Crossett Lumber Co.,	Crossett, Ark.	62,655,684
Russellville Lbr. Co.,	Sumter, S. C.	61,375,500
E. L. Bruce Company,	Memphis, Tenn.	57,105,000
D. L. Fair Lumber Co.,	Louisville, Miss.	53,352,561
Anderson-Tully Company,	Memphis, Tenn.	46,038,675
W. T. Smith Lumber Co.,	Chapman, Ala.	42,245,901*
Kirby Lumber Co.,	Houston, Texas	43,950,000
Bradley Lumber Co.,	Warren, Ark.	41,888,703
Southern Lumber Co.,	Warren, Ark.	39,320,000
Burruss Land & Lbr. Co.,	Lynchburg, Va.	35,000,000
Texas Long Leaf Lbr. Co.,	Trinity, Texas	34,758,653
Fordyce Lumber Co.,	Fordyce, Ark.	34,300,000
W. T. Carter & Bros.	Camden, Texas	34,254,063
Hillyer-Deutsch-Edwards Co.,	Oakdale, La.	34,127,539
Williams & McKeitham Lbr. Co.,	Lynchburg, Va.	29,274,838
King Lumber Industries,	Canton, Miss.	28,921,868
Vestal Lbr. & Mfg. Co.,	Knoxville, Tenn.	28,335,000
Woodward-Walker Lbr. Co.,	Taylor, La.	27,800,000
Ozan Lumber Co.,	Prescott, Ark.	27,143,166
Foley Lumber Industries,	Shamrock, Fla.	26,340,000
Mower Lumber Co.,	Charleston, W. Va.	26,000,000
W. E. Belcher Lumber Co.,	Centreville, Ala.	25,782,526
A. B. Cook Lumber Co.,	Malvern, Ark.	25,000,000
Angelina County Lbr. Co.,	Keltys, Texas	23,758,415
Allison Lumber Co.,	Bellamy, Ala.	23,528,507
Crosby Lbr. & Mfg. Co.,	Crosby, Miss.	23,460,564
Camp Mfg. Co.,	Franklin, Va.	23,114,925
Edens-Birch Lumber Co.,	Corrigan, Texas	22,177,000
Edens-Birch Lumber Co.,	Cleveland, Texas	1,392,000
Gulf Lumber Co.,	Mobile, Ala.	22,094,602
Roy O. Martin Lbr. Co.,	Alexandria, La.	22,000,000**
Martin Timber Co.,	Castor, La.	15,000,000
A. DeWeese Lumber Co.,	Philadelphia, Miss.	21,385,453
Gurdon Lumber Co.,	Gurdon, Ark.	21,200,000
Urania Lumber Co.,	Urania, La.	20,294,333
Mobile River Sawmill Co.,	Mt. Vernon, Ala.	20,087,317
Chicago Mill & Lbr. Co.,	Helena, Ark.	20,045,875
L. E. Foreman & Sons Lbr. Co.,	Elizabeth City N. C.	20,000,000
Greene Bros. Lbr. Co.,	Elizabethtown, N. C.	19,474,178
The Alger-Sullivan Lbr. Co.,	Century, Fla.	19,142,682
Chapman & Dewey Lbr. Co.,	Memphis, Tenn.	18,759,678
Reynolds & Manley,	Savannah, Ga.	18,313,512
Pat Brown Lumber Co.,	High Point, N. C.	18,296,935
L. D. Kellogg Lbr. Co.,	Alexandria, La.	18,200,000
Foster Lumber Co.,	Fostoria, Texas	18,157,334
Holly Hill Lbr. Co.,	Holly Hill, S. C.	18,000,000
Barnes Lumber Co.,	Charlottesville, Va.	18,000,000
Sledge Lumber Co.,	Whiteville, N. C.	17,238,000
Vredenburgh Saw Mill Co.	Vradenburgh, Ala.	17,119,814
J. A. Bentley Lbr. Co.,	Zimmerman, La.	17,094,930
J. H. Jones Lumber Co.,	Natchez, Miss.	16,000,000
Woods Lumber Co.,	Memphis, Tenn.	16,000,000
Belcher & Sons,	Bluefield, W. Va.	16,000,000
Wax Lumber Co.,	Woodville, Miss.	15,431,596
Lakeside Lumber Co.,	Chatham, La.	15,319,633
Nickey Bros.,	Memphis, Tenn.	15,000,000
Frost Lumber Co.,	Nacogdoches, Texas	14,877,431
Williams Lumber Co.,	Rocky Point, N. C	14,790,000
Jeffreys, Spalding Mfg. Co.,	Chase City, Va.	14,760,797
E. A. Stewart Lbr. Co.,	Texarkana, Texas	14,715,000
Millen Lumber Co.,	Millen, Ga.	14,682,540
Richmond Cedar Works,	Norfolk, Va.	14,603,648
Lightsey Bros.,	Miley, S. C.	14,290,000
Clancy Lumber Co.,	Grayson, Ala.	14,230,000
W. A. Belcher Lbr. Co.,	Birmingham, Ala.	14,000,000
Clinton Lumber Co.,	Tetal, Miss.	14,000,000
Louisiana Long Leaf Lbr. Co.,	Fisher, La.	14,000,000
Gennett Lumber Co.,	Asheville, N. C.	14,000,000
T. R. Miller Mill Co.,	Brewton, Ala.	13,879,000
Louisiana Cypress Lbr. Co.,	Pamchatoula, La.	13,500,000
Seagrove Lbr. Co.,	Seagrove, N. C.	12,897,307
W. S. Fox & Sons,	Pine Bluff, Ark.	12,892,309
Cathey-Ward Lumber Co.,	Montgomery, Ala.	12,627,018
Vidor Lumber Co.,	Vidor, Texas	12,500,000
O. L. Payne,	Wells, Texas	12,276,250
Sterling Lbr. & Supply Co.,	Goodwater, Ala.	12,262,731
Flack-Jones Lbr. Co.,	Ridgeville, S. C.	12,237,000
Whitener Lbr. Co.,	Newberry, S. C.	12,219,936
Urbana Lumber Co.,	Urbana, Ark.	12,130,000
Woodville Lumber Co.,	Woodville, Texas	12,000,000
Hall Bros. Lbr. Co.,	Shubuta, Miss.	12,000,000
Bate Lumber Co.,	New Bern, N. C.	12,000,000
Louisiana Delta Hd. Lbr. Co.	Trout, La.	11,716,217
W. A. Ransom Lbr. Co.,	Harahan, La.	11,580,000
J. Walter Wright Lbr. Co.,	Bristol, Tenn.	11,500,000
Ely-Thomas Lbr. Co.,	Camden-on-Gauley, W. Va.	11,488,899
Paterson-McInnis Lbr. Co.,	Gulf Hammock, Fla.	11,350,000
Costal Lumber Co.,	Lake City, S. C.	11,250,000
Alexander Bros. Lbr. Co.,	Columbus, Ga.	11,080,941
Switt-Hunter Lbr. Co.,	Atmore, Ala.	11,063,067
Smithfield Lumber Co.,	Smithfield, N. C.	11,056,714
J. L. Williams & Sons,	Sheridan, Ark.	10,880,955
Georgia-Pacific Plywood Co.,	Dumas, Ark.	10,756,852
Georgia-Pacific Plywood Co.,	Fairfax, S. C.	10,000,000
Marion Lumber Co.,	Marion, S. C.	10,700,000
Bond Brothers,	Louisville, Ky.	10,600,000
Dacus Lumber Co.,	West Memphis, Ark.	10,465,500
Henderson-Molpus Co.,	Philadelphia, Miss.	10,300,000
H. D. Foote Lumber Co.,	Alexandria, La.	10,247,419
Mullins Lumber Co.,	Mullins, S. C.	10,006,789
Columbus Lbr. & Supply Co.,	Columbus, Ga.	10,000,000
Nacogdoches County Lbr. Co.,	Nacogdoches, Texas	10,000,000
Scott Lumber Co.,	Henderson, Ky.	10,000,000
Leggett Lumber Co.,	Leggett, Texas	10,000,000
J. O. Bennett Lbr. Co.	Piedmont, Ala.	10,000,000
Fuller Lumber Co.,	Lewisville, Ark.	10,000,000
Dargan Lbr. Mfg. Co.,	Conway, S. C.	9,967,000
Ashepoo River Lbr. Co.	Ashepoo, S. C.	9,951,122
Hood Lumber Co.,	Hermannville, Miss.	9,932,217
Bellgrade Lumber Co.,	Memphis, Tenn.	9,784,735
Union Pt. Lbr. Co.,	Union Point, Ga.	9,750,000
Long-Bell Lumber Co.,	Quitman, Miss.	9,600,000
Hancock Lumber Co.,	Quirman, Ga.	9,566,239
Perry Lumber Co.,	Selma, N. C.	9,520,000
Lumber River Mfg. Co.,	Lumberton, Miss.	9,370,196
W. T. Vick Lumber Co.,	Hamilton, Ala.	9,358,356
Sullivan Lumber Co.,	Preston, Ga.	9,326,739
Reynolds Bros Lbr. Co.,	Albany, Ga.	9,322,000
Boettcher Lbr. Co.,	Huntsville, Texas	9,054,873
Eureka Lumber Co.,	Washington, N. C.	9,052,000
C. L. Gray Lbr. Co.,	Meridan, Miss.	9,000,000
Herman A. Keeton Lbr. Co.,	Red Bay, Ala.	9,000,000
Spaulding Lumber Company,	Chase City, Va.	9,000,000
Anderson Mfg. Co.,	Tenaha, Texas	8,934,681
Price Paschel Lbr. Co.,	Brandon, Miss.	8,832,013
Cherry Rvr. Boom & Lbr. Co.,	Richmond, W. Va.	8,750,000
Frieberg Mahogany Co.,	Cincinnati, Ohio	8,584,397
A. B. Hurtsboro Lbr. Co.,	Hurtsboro, Ala.	8,545,000
Kellogg Lumber Co.,	Monroe, La.	8,504,944
Davis Bros. Lbr. Co.,	Ansley, La.	8,301,520
Jacobs Lumber Co.,	Americus, Ga.	8,229,000
Neal Lbr. & Mfg. Co.,	Blountstown, Fla.	8,200,000
Mason Lumber Co.,	Madison, Ga.	8,012,296
Melvin Lumber Co.,	Melvin, Ala.	8,000,000
McGowin Lumber Co.,	Pine Apple, Ala.	8,000,000
J. F. Browning Lumber Co.,	Riceboro, Ga.	8,000,000
Harless Lumber Co.,	Lake Charles, La.	7,841,750
Christian Lumber Co.,	Monticello, Ky.	7,750,000
Lexington Lumber Co.,	Orangeburg, S. C.	7,592,359
Conasauga River Lbr. Co.,	Conasauga, Tenn.	7,530,000
St. Joe Lbr. & Ex. Co.,	Pt. St. Hoe, Fla.	7,500,000
E. Sondheimer Co.,	Sondheimer, La.	7,350,000
Beatrice Lumber Co.,	Beatrice, Ala.	7,285,586
T. C. Strather Lbr. Co.,	Newman, Ga.	7,201,545
Korn Industries Inc.,	Sumter, S. C.	7,000,000
Sumter Hardwood Co.,	Sumter S. C.	7,000,000
Jim Wallis Lumber Co.,	Talladega, Ala.	6,659,915
Reimers-Schneider Co.,	Hammond, La.	6,651,919
Tunica Hardwood Co.,	Tunica, La.	6,500,000
Hutchinson Lumber Co.,	Georgetown, Miss.	6,489,243
N. C. Edens Lumber Co.,	Cleveland, Texas	6,100,000
McGraw-Curran Lumber Co.,	Yazoo City, Miss.	6,000,000
Webb Lumber Co.,	Arniston, Ala.	6,000,000
Beechwood Lumber Co.,	Manchester, Ga.	6,000,000
J. C. Martin Lumber Co.,	Waynesboro, Miss.	6,000,000
Graham Lumber Co.,	Maplesville, Ala.	6,000,000
R. F. Learned & Son,	Natchez, Miss.	5,798,000

(Continued on page 83)

PONDEROSA PINE
SUGAR PINE
DOUGLAS FIR
WHITE FIR
INCENSE CEDAR

Kiln Dried
Mouldings and
Interior Trim
Jambs - Frames
Incense Cedar
Venetian Blind Slats
Glued-up Panels
Cut Stock—
Box Shook

200 MILLION FEET MORE To Serve You Better!

The 200 million feet of timber we just bought in Trinity Nat'l. Forest brings our reserves to more than a billion board feet. This, plus three sawmills, two planing mills, and dry kiln capacity of seven million feet of seasoned lumber a month, is your assurance you can get the lumber you want when you want it, from the Ralph L. Smith Lumber Company. Good service makes good friends . . . we're working constantly to serve you better.

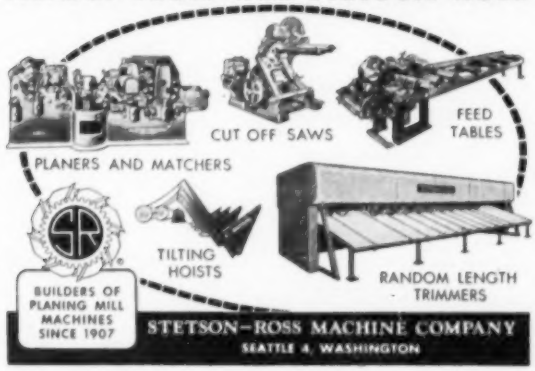
Our Specialty—Mixed Cars for the Trade

The Ralph L.
SMITH
Lumber Company

MILLS at ANDERSON, RED BLUFF, CASTELLA & WILDWOOD, CALIF.

Sales Office at Anderson, California

REDUCE COSTS with STETSON-ROSS



STETSON-ROSS MACHINE COMPANY
SEATTLE 4, WASHINGTON

See the
NORTHWEST
advertisement in the
regular MARCH issue
of LUMBERMAN

SPEAR & JACKSON

Spear & Jackson Bandsaws can be counted on to perform with the best. Into them go the finest steel obtainable and a quality of workmanship in welding, swaging, grinding, and tensioning, gained from years of sawmaking experience.

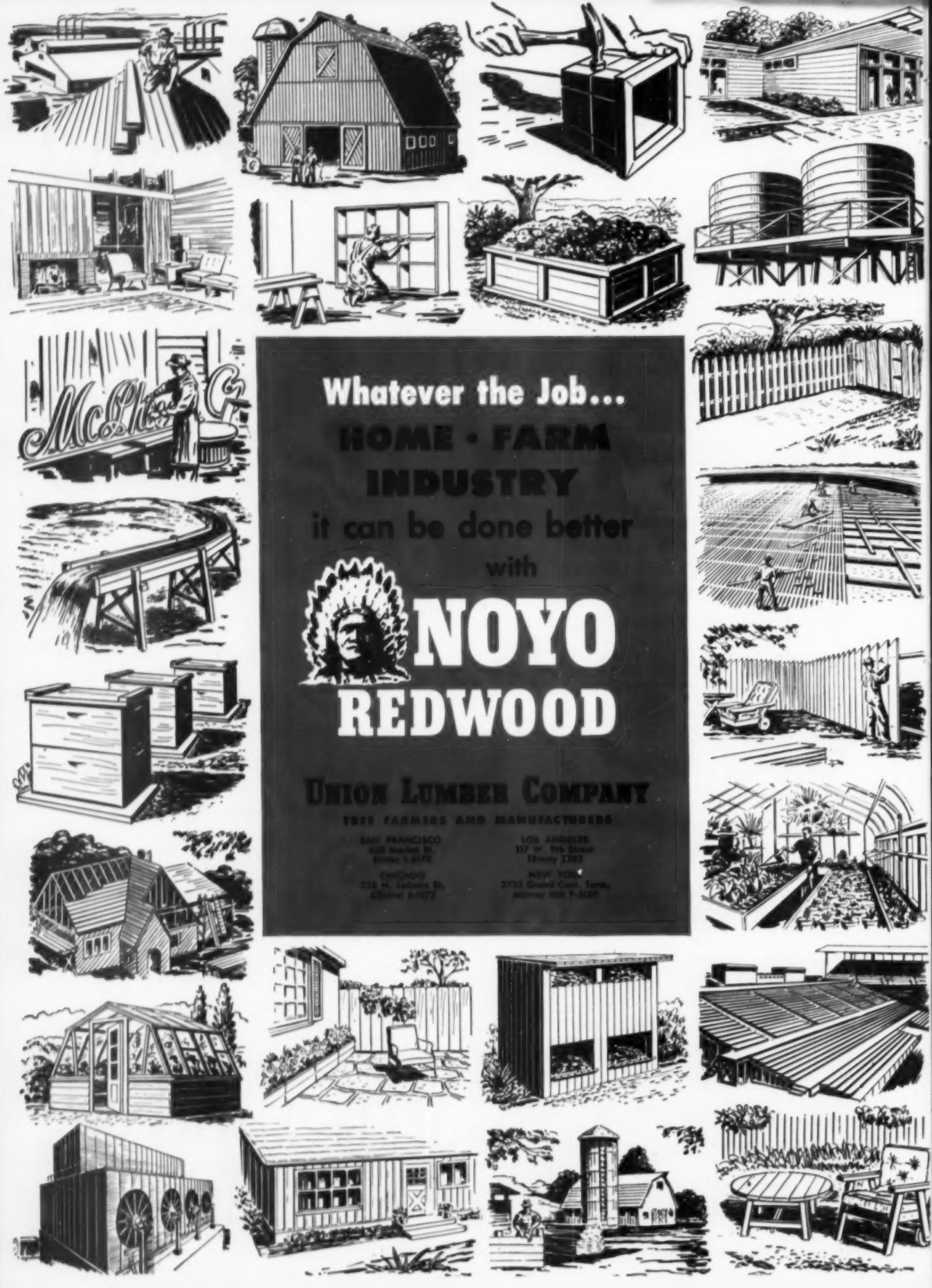
Spear & Jackson Bandsaws are custom-made to your exact specifications at our factory in Eugene, Oregon. Large and small operators alike are satisfied users.

SPEAR & JACKSON

EUGENE, OREGON

BAND, GANG, CIRCULAR SAWS, TEETH and HOLDERS

"The Saw Without A Flaw"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with
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REDWOOD
UNION LUMBER COMPANY
TREE FARMERS AND MANUFACTURERS
SAN FRANCISCO
LOS ANGELES
CHICAGO
NEW YORK

Production of Major Southern Sawmills—1954

(Continued from page 80)

Name	Location	Ft. BM
Farris Lumber Co., Morton, Miss.		5,665,173
Roper Bros. Lbr. Co., Petersburg, Va.		5,542,300
C. Arnold & Sons, Cullman, Ala.		5,437,793
McGeHee Lumber Co., Natchez, Miss.		5,134,279
Mansfield Hardwood Lbr. Co., Shreveport, La.		5,134,279
George Lbr. & Veneer Co., Toomsboro, Ga.		5,070,167
Corinth Planing Mill Co., Corinth, Miss.		5,000,000
Woods Lumber Co., Clarendon, Ark.		5,000,000
Cordele Sash, Door & Lbr. Co., Cordele, Ga.		5,000,000
H. M. Walker Lbr. Co., Battleboro, N. C.		4,604,689
T. G. Layfield & Sons, Providence Forge, Va.		4,328,852
White & Moss Lumber Co., Corinth, Miss.		4,161,846
Davis Bros. Lbr. Co., Cornelia, Ga.		3,847,575
Farris Hardwood Lbr. Co., Nashville, Tenn.		3,795,830
Walton Lumber Co., Dunbarton, Va.		3,528,033
T. F. Durrett Lbr. Co., Quincy, Miss.		3,500,000
Sinclair Lbr. Co., Laurinburg, N. C.		3,340,000
Bradley W. F. Lumber Co., Roberta, Ga.		2,500,000
Buna Lumber Co., Buna, Texas		2,372,472

*Also processed 15,080,718 feet purchased lumber.
**Also processed 8,000,000 feet purchased lumber.
Note—In some instances the Company production figures shown herewith include the cut of more than one mill and also include purchased lumber. For the most part, however, the figures represent lumber manufactured from logs.

Alaska

Ketchikan Spruce Mills, Ketchikan	19,611,834
Columbia Lumber Co of Alaska, Juneau	15,874,150
Petersburg Lumber Co., Petersburg	1,113,535

Lake States & Northeast

Atlantic Lumber Co., Boston, Mass.	49,000,000
Conner Land & Lbr. Co., Leona, Wis.	25,182,753
Menominee Indian Mills, Neopit, Wis.	23,177,014
Warren-Lamb Lumber Co., Rapid City, S. D.	20,200,000
William H. Champlin, Rochester, N. H.	17,100,000
Homestake Mining Co., Spearfish, S. D.	17,000,000
Atlas Plywood Corp., Boston, Mass.	15,000,000
Cadillac Soo Lbr. Co. Sault Ste. Marie, Mich.	14,833,055
William Bonifas Lumber Co., Neenah, Wis.	12,832,716
Ford Motor Co., L'Anse, Mich.	11,774,345
Northern Lumber Co., Poland, N. Y.	11,655,100
Ahonen Lumber Co., Ironwood, Mich.	11,342,600
Abbott-Fox Lumber Co., Iron Mountain, Mich.	11,300,000
Tigerton Lumber Co., Tigerton, Wis.	11,300,000
Vulcan Corp., Donken, Mich.	10,300,000
Thureson Lumber Co., Howell, Mich.	9,500,000
Goodman Lumber Co., Goodman, Wis.	9,300,000
Grafton Lumber Co., Bethel, Me.	9,000,000
Great Eastern Lbr. Corp., North Creek, N. Y.	9,000,000
Icabod T. Williams & Sons, Carteret, N. J.	8,000,000
Yawkey-Bissell Hardwood Flooring Co., White Lake, Wis.	7,025,495
Brown Company, Berlin, N. H.	6,676,907
Cotton-Hanlon, Odessa, N. Y.	6,058,120
Erickson Hardwoods, Onalaska, Wis.	6,000,000
Fisher & Young, Titusville, Pa.	4,922,130
C. M. Christensen Co., Phelps, Wis.	4,895,000
Oval Lake Dis. Corp., Tupper Lake, N. Y.	4,853,657
C. B. Norton & Son, Great Valley, N. Y.	4,500,000
Schneider Brothers, Marquette, Mich.	4,437,000
N. T. Fox Co., Inc., Portland, Me.	4,182,000
Beecher Falls Mfg. Co., Beecher Falls, Vt.	3,937,311
Phillips Flooring & Lbr. Co. Phillips, Wis.	3,661,000
Knoke Lbr. Co., Appleton, Wis.	3,041,499
The John Morgan Lumber Co., Pittsfield, Pa.	3,000,000
Blout Lumber Co., Lacona, N. Y.	2,700,000
A. Mason & Sons, Inc., Peru, N. Y.	2,700,000
Ward Lumber Co., Jay, N. Y.	2,370,000
J C Campbell Co., Duluth, Minn.	2,350,000
Michigan Pole & Tbr. Co., Newberry, Mich.	1,368,764
The Green Glen Inc., Du Bois, Pa.	2,005,815
Harold C. Peterson Lbr. Co., Watersmeet, Mich.	1,500,000
Wausau Lbr. Sales Co., Wis.	1,000,000

Eastern Canada

Price Bros. & Co., Ltd., Quebec	47,800,000
J. J. McFadden Lumber Co., Blind River, Ont.	29,956,000
The Pas Lumber Co., The Pas., Man.	29,500,000
George Gordon & Co., Ltd., Cache Bay, Ont.	14,826,172
Great Lakes Lbr. & Shp. Co., Ft. William, Ont.	1,149,387

DISSTON
HAS THE EDGE®

in cutter heads and planer knives

For higher operating speeds, smoother production, use Disston cutter heads and planer knives. The built-in advantages of Disston design and craftsmanship produce high-quality finished wood surfaces at minimum operating cost.

Disston Philbrick® Cutter Heads have accurately ground bores and sleeves, are dynamically balanced . . . to run without vibration and chatter. That means smoother operation, more accurately planed and shaped wood. Knife changes are quick and simple—no gibs, clamps or holders. Each pair of heads can work a variety of patterns

Disston Thin Planer Knives for round head machines meet the special needs of the planerman. They are made to your exact specifications, balanced in pairs or sets, uniform in size and temper. Whether you are planing hard or soft abrasive wood, the superior Disston steel will stay sharper longer between grinding and jointing.

Buy these quality products from your Disston Industrial Distributor. He will give you dependable advice and prompt service. Or write:

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In Canada: 2-20 Fraser Ave., Toronto 3, Ont.

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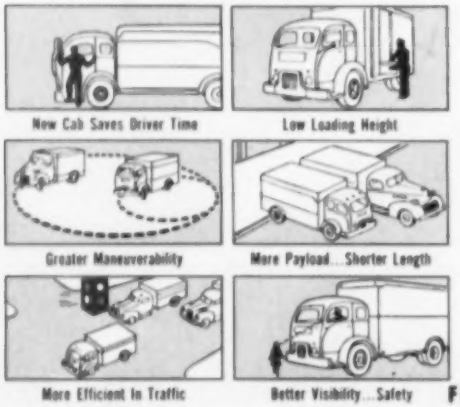
Check these White Cost-Saving Advantages



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FOR MORE THAN 50 YEARS THE GREATEST NAME IN TRUCKS

HOW TO BUY RUBBER TRANSMISSION BELT

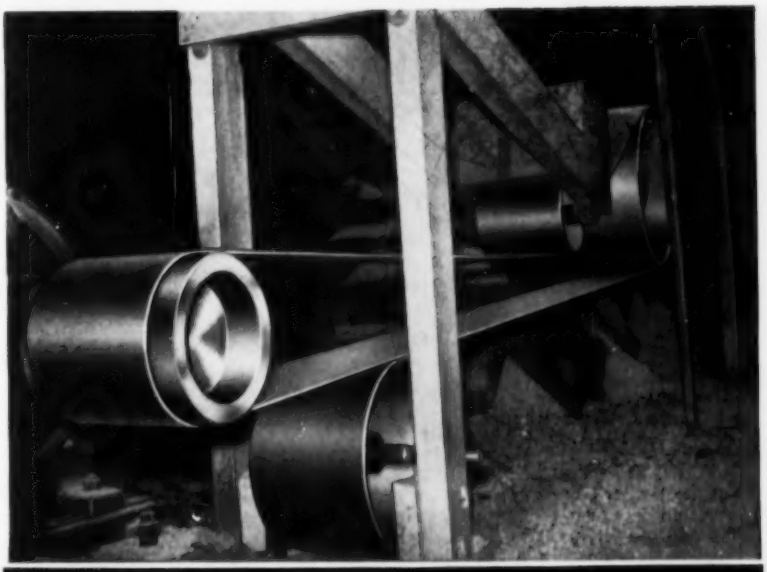
For MORE POWER AND LONGER BELT LIFE

"More Use per Dollar"

Look for a belt engineered to give uniform ply tension and eliminate major causes of premature belt failure.

Unequal distribution of tension among the plies of a rubber transmission belt is the cause of most belt weaknesses and eventual failure. With ordinary belts, the inner plies "loaf", become loosely crumpled when rounding a pulley. Outer plies become overworked . . . pull more than their share of the load. The thicker the belt the greater the tension of these outer plies. It is here where belt failures begin . . . plies separate, outside plies rupture—especially at the fasteners. Where ply stresses are equalized *during manufacture*, every ply pulls its share of the rated horse-power of the belt . . . you get more power, more belt life, longer trouble-free service.

Specify by name the only transmission belt with exclusive equalized ply stresses . . . specify R/M's Condor Compensated Belt.



CONDOR COMPENSATED BELT

An exclusive Manhattan method of equalizing transmission belt ply stresses was developed by R/M engineers especially to eliminate ply separation, rupture and fastener troubles. When Condor Compensated Belt rounds the pulley, every ply is under *uniform* tension . . . every ply pulls its full share of the load. On many drives, Condor Compensated Belt holds fasteners up to 4 times longer than ordinary belt. A selection of driving surfaces is available to meet various machine tension requirements . . . from low-tension to a required degree of slip.

Let an R/M representative show you how the advantages of Condor Compensated Belt can mean more power and longer trouble-free belt life . . . "More Use per Dollar" on your power transmission drives. For endless belts, ask about Condor Whipcord Belts with endless, stretchless cord strength members.

RM 515 F A L

MANHATTAN RUBBER DIVISION—PASSAIC, NEW JERSEY

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Other R/M products include: Industrial Rubber • Fan Belts • Radiator Hose • Brake Linings • Brake Blocks • Clutch Facings
Asbestos Textiles • Packings • Engineered Plastic, and Sintered Metal Products • Bowling Balls

Lumber World Lumber Reports

New Zealanders Register Remarkable Expansion

Reported by NEW ZEALAND FOREST PRODUCTS, LTD.

• The timber industry in New Zealand will experience important development in 1955.

N.Z. Forest Products Limited, largest of the timber companies now operating, will increase its annual sawn timber output from 60 million board feet to 75 million board feet when a new American bandmill to be ordered in the U.S.A. is operating. This Company at present cuts 333,000 tons of Radiata logs yearly for timber and 222,000 for pulping from its 176,000 acres of pine forests.

Seasoning is carried out by air conditioning although the demand for kiln dried lumber is increasing. Newest and largest of the kilns was installed at Kinleith in 1954. All timber is handled by conveyors and mechanical hoists. Most export timber to Australia is strapped.

The newest products from forests are kraft pulp and paper which are produced by N.Z. Forest Products Limited at Kinleith. Lumber surfacing is done by planers or dressing machines.

With the establishment of the country's first pulp and paper mill at Kinleith using New Zealand-grown timber, new emphasis was placed on complete utilization. Bark, sawdust and wood-waste are now used as boiler fuel and slabs or log-offcuts are chipped for wall-board manufacture.

THE KINLEITH PULP, paper and lumber mills are situated on 110 acres of land in the center of New Zealand's north island. Sawmill at center left. There is between 7 & 8 million bf of lumber stacked in the "conditioning" yard. Pulp & paper mills in background. UPPER RIGHT—Sir DAVID HENRY, chmn. & mng. dir. of NZ Forest Products, Ltd., New Zealand's largest forest industry. LOWER RIGHT—M. R. BUCKETT, asst. gen. mgr. of NZFP, also supervises logging and milling.

Latest U. S. Exports to New Zealand are as follows:

	1953 Quantity Bd. Ft.	1954 (9 Months) Quantity Bd. Ft.
TIMBER		
Redwood	370,030	818,718
Douglas Fir	20,015	2,396,220
Western Red Cedar	8,032	154,161
Hickory	4,808	7,686
Hemlock	5,064	.....
Sugar Pine	3,137	.....
Mahogany	300	.....
Balsa	.....	48
Other	2,006	2,558
Total Timber	413,392	3,379,391

Other well-known NZ forest industries men include Alwyn Carter, pres. of NZ Sawmillers Federation and gen. mgr. of Cartier Consolidated Ltd., timber merchants and sawmillers; and M. L. Hobday, gen. mgr. of Tasman Pulp & Paper Co., Ltd.

12,000 Sawmills in France

• According to a recent government dispatch, there are estimated to be approximately 25,000 private timber contractors in France employing around 72,000 persons. Total number of sawmills is estimated at about 12,000 with 45,000 employees. Altogether, sawmills and woodworking plants employ around half a million workers in their 70,000-odd plants.

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1400 R. A. LONG BUILDING
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MIXED CAR LOTS
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CERTIGRADE Western Red Cedar Shingles

Douglas Fir Panel Doors

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Construction Sizes and Grades • Pattern Clears
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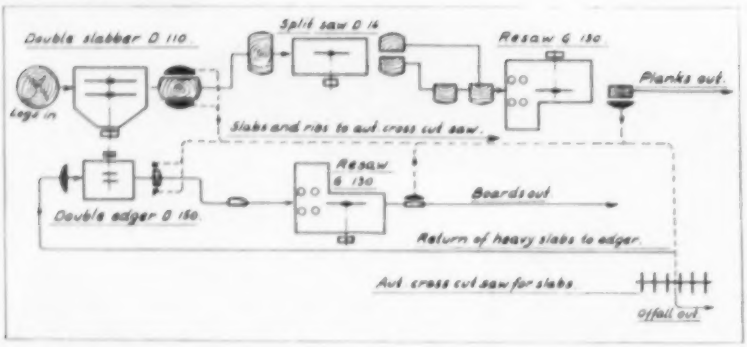
CANADIAN WESTERN LUMBER COMPANY LIMITED
FRASER MILLS, BRITISH COLUMBIA

Lumber



FLOW SHEET OF CIRCULAR sawmill now popular in Norway; output, efficiency are high.

New Norse Circular Mill Cuts 3 M Per Man Per Day

HALVOR SKJELMERUD

• The answers to sawmilling problems in Norway are very similar to those elsewhere, particularly those of America. However, Norway is faced with a traditional shortage of available timber; therefore efforts to increas the efficiency of sawmilling and quality of product are doubly vital.

There are over 5000 sawmills in Norway, mostly small; new plants are rarely built and competition between log buyers is razor-sharp. Efforts to raise efficiency have led to development of a characteristic Norwegian type of circular sawmill, which may find useful adaptation in other countries for handling small and medium size timber.

Mr. Skjelmerud is connected with the Norwegian Institute of Wood Working and Wood Technology in Oslo.

THE FLOW SHEET above shows an example of a recent favorite layout. The daily production averages about 32,000 bd. ft. Eleven men are employed on the sawmill floor, which gives an output per man/day of approx. 3000 bd. ft. Tests carried show that accuracy of the product compares favorably with that of the output from the gang saws, and it is appreciably better than the accuracy obtained with the ordinary circular saws. For plank thicknesses from 2"-3" the variations of the thickness of the planks have been found to be from 0.02-0.03". The layout has been developed by J. & A. Jensen og Dahl (Jajod) A/S, manufacturers of sawmill equipment in Oslo.

In the planing, the trend is towards increased productivity by means of mechanizing. It is typical of the Scandinavian procedure that the timber is cut in plank thicknesses. After seasoning the planks are resawn in circular resaws, employing very thin blades and with a high accuracy. To supply boards to a high speed planing and matching machine two or more resaws are required and these resaws are now placed in a row so that the planks move from one machine to the other automatically. Further a mechanical feeding device for the resaw first in the line has been developed and a conveyor type crosscut saw for the planks requiring only one operator. Planing mills of this type are being run with about 50% of the man power required in the older mills.

AS TO DESIGN of the planing and matching machine a new type of bottom cutter spindles has been introduced. The head of this spindle has a cutting circle diameter of 12". The head is fitted with 16 knives and runs at a speed of 3000-4000 r.p.m. The finish obtained with these spindles is excellent even at rates of feed of 350 feet/sec., and the knives will stand up for one or two weeks continuous planing.

Where the new type of bottom spindle is installed, the "fixed knives" which were generally in use for the bottom side are omitted. Also in the lumber yards the use of mechanical equipment is increasing. The forktruck is gaining in popularity and kiln drying is coming to the fore.

U.S. Gets Brazil Lumber

• In 1953, Brazil exported 34,953 metric tons of pine boards to the United States and 137,794 metric tons to the United Kingdom. Argentina was the best customer with 244,697 metric tons of pine boards imported from Brazil.

In 1953, the United States imported 2,583 metric tons of Jacaranda wood in log form.

▲ ▲ ▲

Estimated Value of Production, Including Loading and Freight, in British Columbia, 1944-53

Product	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	Ten-year Average, 1944-53
Lumber	$81,495,000	$78,244,000	$87,013,502	$155,761,222	$219,289,000	$206,228,610	$303,384,304	$278,904,266	$280,006,490	$279,979,507	$197,030,589
Pulp and paper	30,391,000	33,782,000	41,800,555	57,145,678	73,989,000	68,482,241	78,739,573	135,167,761	129,238,520	135,871,797	78,760,811
Shingles	10,006,000	10,544,000	12,946,506	23,625,946	25,094,000	16,881,240	37,502,958	32,537,442	23,878,886	26,700,153	22,021,713
Boxes	7,218,000	7,855,000	8,288,491	10,430,608	6,129,000	3,424,268	3,837,067	4,062,133	2,367,450	1,810,378	5,542,240
Plywood	6,100,000	6,000,000	9,120,000	20,830,000	22,430,000	21,500,000	26,250,000	34,500,000	36,572,000	45,240,000	22,854,200
Piles, poles, and mine-timber	2,088,000	2,986,000	5,125,762	5,225,000	4,158,000	4,470,379	5,127,681	5,805,745	9,540,340	8,646,611	5,317,351
Cordwood, fence-posts, and lagging	3,303,000	2,621,000	2,647,488	2,200,000	1,671,000	2,058,200	2,189,249	2,349,720	2,675,870	2,581,800	2,429,734
Ties, railway	484,000	507,000	478,519	580,000	671,000	467,127	281,308	633,089	963,200	669,007	573,426
Additional value contributed by the wood-using industry	1,600,000	1,500,000	1,700,000	1,600,000	1,800,000	2,000,000	2,250,000	2,812,500	2,530,000	2,530,000	2,053,550
Laths and other miscellaneous products	1,500,000	1,500,000	1,400,000	1,200,000	1,598,000	1,454,000	1,723,616	1,994,340	2,164,000	2,688,007	1,722,263
Logs exported	2,065,000	1,766,000	2,349,280	3,313,672	6,435,000	4,029,069	5,741,784	4,981,597	5,401,410	4,514,777	4,059,759
Pulp-wood exported	35,000	25,000	6,787	32,616	29,000	139,200	741,128	99,375	236,900	37,296	138,230
Christmas trees	236,000	271,000	402,056	293,652	470,000	445,965	583,549	939,390	912,700	999,157	555,347
Cascara bark	90,000	54,000	192,421	50,000	23,000	9,250	18,925	20,572	18,130	20,160	49,646
Totals	$146,611,000	$147,655,000	$173,471,370	$282,288,388	$363,786,000	$331,589,549	$468,371,142	$504,807,930	$496,506,550	$512,288,656	

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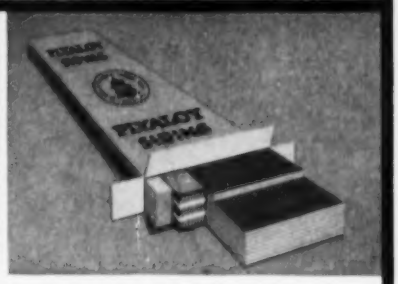
When you do business with St. Paul, you get dependable products *plus* dependable service. Tree Life products are tailor-made for profitable selling in today's markets. Direct mill shipment of straight or mixed cars of plywood and lumber. Write or wire for quotations and complete information.



1. PLYALOY—medium-density overlaid Exterior plywood. Pre-cut to siding widths, factory packaged complete with wedges and furring strips. Also available in standard 4' x 8' panels.

2. PLYGLAZE—high-density overlaid panels for concrete forms, industrial uses.

3. TEXTURE 1-11—new "grooved" Exterior plywood siding. Factory packaged.

4. FIR PLYWOOD—DFPA-inspected Exterior and Interior types. All grades, sizes.

5. MOIRÉ—"Brushed grain" Exterior fir plywood. Factory packaged for protection.

6. KNOTTY PINE—Select Idaho white pine. Exterior-type. Factory packaged.

7. KNOTTY CEDAR—Unusually good-looking. Exterior-type. Factory packaged.

8. TREE-LIFE HEMLOCK LUMBER—Carefully graded. Kiln-dried. All grades, sizes.

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ST. PAUL & TACOMA LUMBER COMPANY

TACOMA 2, WASHINGTON

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MANUFACTURERS OF FAMOUS TREE LIFE FOREST PRODUCTS

Wooden Pallets

A 40- BY 48-INCH, four-way entry, bolted hardwood pallet. These useful boards are becoming more popular.

A 40- BY 48-INCH, four-way entry, nailed softwood pallet. The top deck boards of pallet are nominal 2-inch material.

THE LUMBERMAN's Forest Industries Review Number Spotlights . . . . . .

Wooden Pallet Industry

First report on this little-known activity reveals it is big now and getting bigger

WHAT BRANCH of the industry has been termed by one authority as "the fastest growing segment of the Lumber Industry?"

What segment of the industry is that which in 1954 probably consumed close to a billion feet of hard-to-sell lumber and which the Weyerhaeuser-Stanford report predicts will be consuming a billion and a quarter feet by 1975?

What is this branch of the industry, which while still in its infancy, produces annually a product valued at nearly one hundred million dollars?

IT IS THE WOODEN PALLET INDUSTRY. It is nationwide in scope. It consumes both hardwoods and soft woods. Last year it produced nearly 40,000,000 pallets. THE LUMBERMAN has a list of more than 500 plants which manufacture pallets and there could be and probably are as many more.

The industry has a national association.

An exhaustive study of the industry has been made by the Forest Products Laboratory, Madison, Wis. Detailed reports of these studies have been written.

How the Industry Grew

Some idea of the growth of the wooden pallet industry can be obtained from the following figures from the Weyerhaeuser Stanford report.

Wood used for pallets

Year	Lumber Consumed
1940	200,000,000 Ft BM
1945	300,000,000 " "
1950	765,000,000 " "
1953	600,000,000 " "

Then the report projects the wood requirements of the industry up to 1975 as follows:

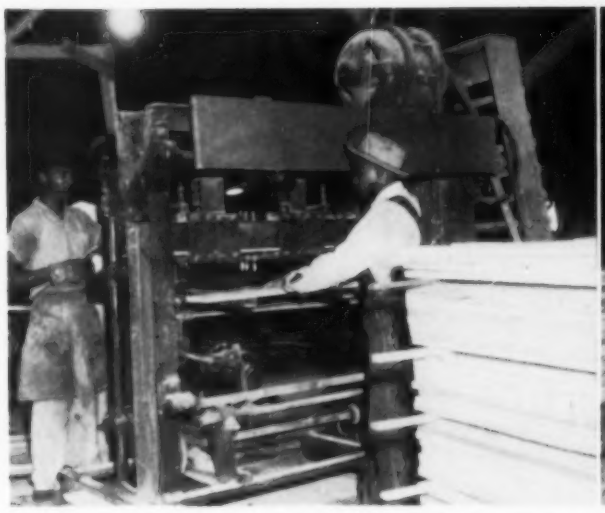
Year	Estimated Requirements
1960	800,000,000 M BM
1965	900,000,000 " "
1970	1,130,000,000 " "
1975	1,230,000,000 " "

It would appear that the above figures are extremely conservative and that considerably more lumber is being used in the manufacture of pallets than is indicated. Support for this is found in figures supplied by William H. Sardo, Jr., manager of the National Wooden Pallet Manufacturers' Association, Washington, D. C., who reported a production of 40,000,000 pallets in 1953 but a little less in 1954, and who states that "An acceptable common denominator to convert units to board feet would be to multiply that figure by 25 which is the average board measure content of the average pallet." Using Mr. Sardo's figure, therefore, means that 1,000,000,000 feet of lumber was used for pallets in 1953, somewhat higher than 600,000,000 feet indicated in the Stanford report.

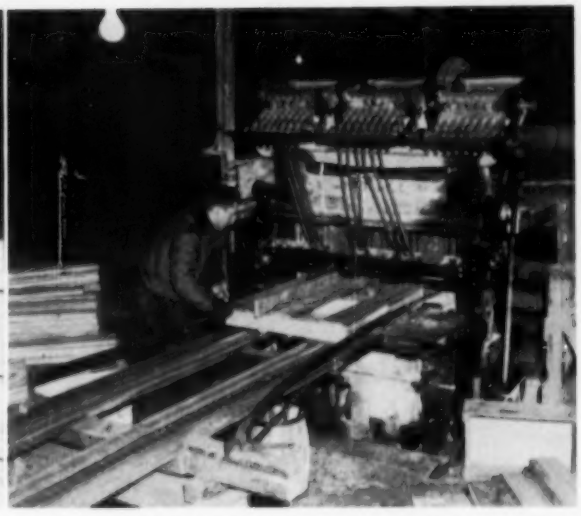
Mr. Sardo supplies the following

ENFORCEMENT OF HIGH QUALITY STANDARDS set by National Wooden Pallet Manufacturers' Association, and other marketing angles featured the meeting of that organization in New Orleans, La., Jan. 31—Feb. 1. At left here is W. R. Jordan, Arkansas Pallet Co., Pine Bluff, Ark., elevated from vice-president to the presidency; and, right, is William H. Sardo, Jr., Washington, D. C., secretary-manager.

Wooden Pallets



A MULTIPLE DRILL in operation at a Southern U.S. pallet plant.



ONE OF TWO MORGAN nailers in Nepa Const. Co. plant.

estimates of pallets produced and their dollar value:

Year	No. of Units	Dollar Value
1945	30,000,000	Not available
1950	23,000,000	" "
1951	27,000,000	$60,750,000
1952	33,000,000	74,250,000
1953	40,000,000	100,000,000
1954	36,000,000	86,000,000

The NWPMA predicts that there will be twice as many pallets manufactured by the year 2000 as there are at present.

The wooden pallet industry received a tremendous impetus during World War II and particularly as a means of expediting shipment of war materials. In Seattle during the war the military set up its own pallet manufacturing plant. Pallets were produced there for shipping of vessel cargoes to the far east.

The advent and development of the fork lift truck made possible the use of pallets and the handling of materials by this new method.

The Forest Products Laboratory's report says, "It is estimated that the military services used between 55 and 60 million pallets between 1941-1945." Most of the loaded pallets sent offshore were never returned. They were truly expendable.

The Forest Product Laboratory's report goes on to say:

"The wooden pallet offers one of the most promising outlets for utilizing millions of board feet of material otherwise often wasted or burned for fuel. Large volumes of low-grade hardwood and considerable quantities of unused slabs are being salvaged for the manufacture of pallets. The relatively short lengths and widths involved permit utilization of large quantities of this material.

"The center of commercial pallet manufacture in 1948 was in the Northeast, especially New York. The South was second, with the North Central States and Pacific Coast about equal.

"The 40- x 48-inch size is probably the most commonly used, since it is now the standard general-purpose pallet size for the Navy and is also widely used by other branches of the armed services. One of the principal reasons the Navy shifted from its previous standard of 48 x 48 inches was the flexibility of the 40- x 48-inch pallet with respect to railroad and highway use. This is the largest pallet that can be used interchangeably between freight cars and truck or trailer.

THE NEPA CONSTRUCTION CO., Snohomish, Wash., one of the West's largest pallet manufacturers, buys much of its lumber in the form of cants like those here shown.

Lumber Specifications

"Groups I, II, III and IV woods are acceptable on a performance basis for wooden pallet construction according to the customer's requirements and the end use.

"Lumber used in pallet construction shall be sound, square-edged, free of decay, and free of knots with an average diameter greater than one-third of the width of a piece. Season checks, pin-worm holes, mineral streaks, stain, and wane or barky edge (not greater than one-fourth the thickness and one-sixth the width of any piece) do not affect the structural strength of pallets and are permissible defects. No piece shall contain any other defect or combination thereof which would materially weaken the strength of the piece, or hinder its proper fastening.

"The most common species employed for pallet construction in each

Wooden Pallets

MANY SMALL Southern plants still use hand nailing.

AUTOMATIC TRIMMER in Nepa Construction Co.'s plant.

of these groups is as follows:

GROUP I

Aspen (Popple)	Fir, White
Basswood	Magnolia
Buckeye	Pine, Jack
Butternut	Pine, Lodgepole
Cedar	Pine, Ponderosa
Chestnut	Pine, Red (Norway)
Cottonwood	Pine, Sugar
Cucumbertree	Pine, White
Cypress	Redwood
Fir, Alpine	Spruce
Fir, Balsam	Yellow Poplar
Fir, Noble	

GROUP II

Douglas Fir	Larch (Tamarack)
Hemlock	Pine, Southern

GROUP III

Ash, Black	Maple, Soft
Ash, Pumpkin	Sweetgum (Red Gum)
Blackgum	Sycamore
Elm, White	Tupelo, Water

GROUP IV

Ash, White	Hickory
Beech	Maple, Hard
Birch	Oak, Red
Elm, Rock	Oak, White
Hackberry	Pecan

Required Moisture Content

"There shall be two (2) grades of moisture content for pallets made under these specifications:

"**GRADE 'AA'**—Deckboards shall be a maximum of 25% moisture content for Group IV woods, and a maximum of 20% moisture content for Group I, II and III woods. Stringers or blocks may be of any degree of seasoning.

"**Grade 'A'**—Any degree of moisture content may be used for deckboards and stringers or blocks."

Plywood is used to some extent in some pallet plants and some pallets are glued as well as nailed or bolted.

How Pallets Are Classified

There are three major pallet classifications: (1) those that are expendable usually built for one trip and therefore generally a low cost item; (2) those built for general purpose use; these are pallets that will be used over and over; good construction and long life are of prime consideration; (3) those built for special purposes to individual specifications. This is generally a type of order greatly desired by pallet manufacturers.

LIFE OF THIS PALLET will be greatly extended by use of steel strapping. This pallet has Signode strapping. The strapping also adds to the strength.

There are a number of standard styles, designs and constructions including two-way pallets; four-way pallets; single-faced pallets; double-faced pallets; etc.

The National Wooden Pallet Manufacturers Association has done a great deal to develop and promulgate standard specifications for all kinds of pallets. The Forest Products Laboratory has likewise done much to standardize the product. The military also has worked out standards for pallets it requires.

Pallet Plant Equipment

The equipment needs of a pallet fabricating plant naturally will vary as to the size of the plant and the type of pallets produced. A small plant using only 4 to 5 thousand board feet of lumber daily for heavy-duty pallets might need little more than a table ripsaw, planer, cutoff saw, and facilities for hand nailing. A small plant making only expendable wood pallets might require such additional equipment as a resaw and an automatic nailing machine.

Larger plants, equipped to make quality heavy-duty pallets to varying and specific customer designs and specifications, will need not only additional kinds of machinery but more than one unit of the same kind. For this class of operation, in addition to the cutoff saws, ripsaws, planers, and resaws, there probably should be multiple boring machines for making bolted pallets or predrilling deck boards of nailed pallets, automatic nailers, conveyor system or lift trucks for materials handling, dipping tanks for treating pallets or components with preservatives, and facilities for chamfering end deck boards. There may be need for wood drying facilities to obtain specified moisture contents, stenciling, or trade marking equipment, and trailer trucks for making deliveries.

While initially the use use of pallets was more or less confined to the han-

Wooden Pallets

diing of materials for railroad or ship transportation, the advantages of the pallets are so many and apparent that their use has spread to the trucking field and this is looked upon as one field whose surface has scarcely been scratched.

Pallets are coming to be widely used in industrial plants as a means of expediting and reducing intra-plant movement of raw materials and manufactured products either in course of manufacture or for in-and-out storage. One pallet manufacturer told THE LUMBERMAN recently that a flour mill which had always handled sacked flour in the mill by means of one-man hand trucks, adopted the pallet method and found that one man with a small fork truck could handle ten times as much sacked flour as was possible by the old method.

Another field now opening up to the use of pallets in the fruit industry. Special pallets for handling fruit in the orchards and thence to warehouses or canneries or other processing plants are said to result in a great reduction in handling costs. Pallets are also commencing to be used in the handling of grain.

The field for their use appears almost limitless.

HANDLING PALLETS at Nepa Construction Co. with this fork lift truck. Note stocks of nails, bolts and fasteners at right, part of a large inventory.

'55 Will Be Banner Year; 50-Year Outlook Is Bright Say American Pallet Makers

AT THE RECENT annual meeting of the National Wooden Pallet Manufacturers Association at New Orleans, those in attendance unanimiously agreed that their industry has a very bright outlook over the next fifty years.

A dynamic trade promotion program was approved for 1955 which includes three activities of paramount interest to pallet users and manufacturers alike. These projects are:

(1) Publish a set of inspection or grading rules for use with the NWPMA Minimum Standard Specifications for warehouse pallets, and the new Grade Mark. These are intended as a guide for both customer's personnel and member mill inspectors;

(2) Prepare and publish a brochure on minimum standard specifications for wooden expendable pallets, which will be distributed to pallet users and prospects;

(3) Prepare and publish a brochure of factual information on the proper care and maintenance of wooden pallets.

New officers of NWPMA elected to serve during 1955 were as follows:—

(Continued on page 94)

Glossary of Terms Used in the Wooden Pallet Industry, Compiled by Fores Products Lab.

Pallet Design —

Two-way entry.—This design permits entry of mechanical handling equipment from two sides only and in opposite directions.

Four-way entry.—This design permits entry of mechanical handling equipment on all four sides.

Eight-way entry.—This design is similar to four-way pallets but with posts arranged to provide for entry of mechanical handling equipment, not only from all sides but diagonally from the corners as well. (Of limited use except in warehousing.)

Pallet Nomenclature—

Deck.—This can be subdivided into top and bottom decks. The top deck or face of a pallet carries the load. The bottom deck or face of a pallet helps to distribute the load more uniformly.

Deck boards.—The boards which make up the decks or faces of a pallet, usually referred to as top or bottom deck boards.

Stringers.—These are wooden runners to which the deck boards are fastened, and which serve as a spacer between the top and bottom decks to permit the entry of tines of lift trucks.

Posts.—These are square or round wooden parts or other materials employed on some four-way entry and all eight-way entry pallets in place of stringers, and serve the same purpose. These are also called columns or blocks.

Subdeck boards.—These are used with posts to replace stringers and tie the top deck boards to the pallet. Sometimes called stringer boards.

Pallet Styles—

Single-face pallet.—This style has only one deck, the top surface.

Double-face pallet.—This style has both top and bottom decks and comes in two different designs.

(a) Reversible – This style has identical top and bottom decks upon which goods may be stacked on either deck. This is also referred to as double-face pallet.

(b) Nonreversible – In this style, the top and bottom have different deck openings. Therefore, goods may be stacked only on the top deck.

Expendable pallet.—Expendable pallets are designed for temporary use or on trip shipments. They are usually of economical construction and have minimum strength factors.

Pallet sizes.—Dimensions should always be stated in inches with the length given before the width. The width should be given as the dimension parallel to the top deck boards.

Pallet Types—

Flush stringer.—A pallet in which the outside stringers are flush with the ends of the deck boards. Also called warehouse or standard pallet.

Single-wing.—A pallet in which the outside stringers are set inboard a number of inches on the top deck, while the stringers are flush with the ends of the bottom deck boards. Also called airplane type construction.

Double-wing.—A pallet in which the outside stringers are set inboard of both top and bottom deck boards to accommodate bar slings for handling the pallet. Also called stevedore, general-purpose, or cootie type construction.

Wooden Pallets

South Has All Kinds of Plants

in its wooden pallet industry, which is divided into many units, large and small

SOUTHERN PALLET MAKING is strictly on a hard competitive basis in which that part of the industry is characterized by a few large fully mechanically equipped plants, many others with whom the product is but one product or activity, and a small percentage of hardwood lumber manufacturers.

Variety of pallets is large; and orders on the small side, mostly for quick delivery; and pricing close. There is a percentage of operators who come into the field, lose money on orders, and drop out. Many successful operators producing other products and/or services submit only bids promising a profit margin. There exists the usual relationships in which pallet makers have established customers on a mutually satisfactory basis. Adherence to specifications is general practice. Bidding calls for close figuring since there is experienced a variable factor of cost in material and in delivery. As one operator stated: "you figure a profit margin of $2.00 on paper; and realize $1.50; or, if figuring close, a margin of 60c and realize 50c.

EQUIPMENT GENERALLY includes an assortment of trim saws, roller bed conveyors, adjustable jigs, drill press for the decking. Hand nailing prevails, commonly on piece work basis, it being said that size of orders and variable sizes combine with fluctuations in total volume cause many operators to be unconvinced that a machine nailer would prove economical.

Southern hardwoods, because of their inherent properties, have found wide acceptance in the fabrication of pallets. Excelling in strength factors and rated as tops in nail-holding power, southern oak pallets have attained an unequalled record of service life. Second hardwood in importance for pallets is gum, which because of its high degree of toughness, resistance to splitting, and nail-holding power in relation to weight, is the preferred species for many kinds of pallets requiring weight less than oak. Manufacturers and users have found these and other southern hardwoods economical and serviceable as pallet components.

Although these species are found throughout the region from Atlantic tidewater to eastern Texas and Oklahoma, the lumber manufacturing industry does not enter extensively into the pallet field. Hardwood mills producing pallets do so to convert low grades into a marketable product. These converters do not maintain elaborate mechanical facilities and usually do hand nailing. One hardwood manufacturer says: "Our pallet making operation is not elaborate for the reason that it does not amount to a very great volume of our total business. We only make pallets as a means of disposing of some low grade hardwood lumber."

ANOTHER HARDWOOD MAN says: "We do not make pallets at all. We have had a number of opportunities to get into this business, but knowing the history of the pallet business pretty well, we have never been able to convince ourselves that, with the equipment that we have, we could possibly make any money on this type of business."

Polling of selected hardwood manufacturers extending across the region revealed that of 31 answers, two companies made pallets directly, two shipped lumber to pallet makers, and two had pallet making affiliates.

While pallets are not of major importance to them, such producers as Crossett Lumber Co., Crossett, Ark., and Southern Pine Lumber Co., Diboll, Texas, exercise every care to insure the marketing of a quality product equal to their major lines. Both companies urge customers carefully determine the work the pallet is to perform, how it should be built to fit the operation, urging that one pallet cannot do all types of work.

Reynolds & Manley Lumber Co., Savannah, Ga., through a subsidiary, "Georgia Export Packers, Inc.," not only produces pallets but in its shipside plant performs the complete crating job for a wide range of customers, including trucks, crawler tractors, trailer parts, textile looms, and internal combustion motors. Hardwoods used in the operation are supplied from the 15 million foot stock carried in the lumber company's air drying yard.

RATED THE LARGEST and perhaps only plant of its type in that state, the Arkansas Pallet Co., at Pine Bluff, has a daily capacity of 12 to 15 carlots. It uses an automatic nailing machine.

In Memphis, a prominent pallet maker is the Williford Mfg. Co., the principal of which is identified with a well known hardwood manufacturing family.

In Louisiana, the Port Barre Lumber Co., Port Barre, La., is rated among the oldest in the field. Well known New Orlean pallet makers include George Minor & Sons, J. D. Snee, and Lumber Enterprises, Inc. The last named does custom kiln drying, including imported mahogany.

'55 Will Be Banner Year

(Continued from page 93)

President: W. R. Jordan, Pine Bluff, Ark.
Vice President: Lee S. Settel, Ellijay, Ga.
Vice President: Thomas N. DePew, St. Louis, Mo.
Treasurer: Frank H. Woodward, Brattleboro, Vt.
Secretary-Manager: Wm. H. Sardo, Jr., Washington, D. C.

Elected to serve on the NWPMA Board of Directors during this year were:—

Frank H. Woodward, Brattleboro, Vt.
Welles Worthen, New York, N. Y.
Carl P. Rebele, Sandy Lake, Pa.
M. R. Piland, Jr., Williamsburg, Va.
W. R. Jordan, Pine Bluff, Ark.
William S. Ahern, Chicago, Ill.
E. M. Denning, Richmond, Calif.
Thomas N. DePew, St. Louis, Mo.
Lee S. Settel, Ellijay, Ga.
A. B. Farris, Morton, Miss.
Walter G. Moeling III, Goodwater, Ala.
Margaret A. Durkee, Pine River, Minn.

The association will hold three pallet conferences on the West Coast in July and August. One will be in Los Angeles, another one in San Francisco and the third either in Portland or Seattle.

A Modern Pallet Plant Is Really Many Different Operations, One of Which May Be Sawmilling Itself

While the business of making pallets is for the most part an independent industry, there are conspicuous examples of lumber company pallet plants. There appears to be growing interest on the part of lumber manufacturers in the pallet industry, which is logical since these manufacturers can utilize much short length material which otherwise might be lost or at least sold at little or no profit.

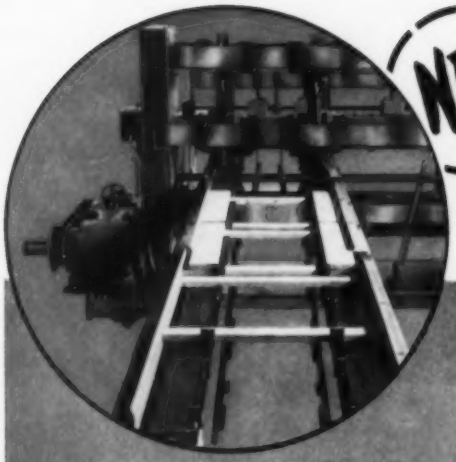
The straight pallet manufacturer buys his lumber from sawmills in various sizes best suited to fit his operations. One well known Northwest pallet plant prefers to buy cants which are then resawn in the company mill to fit requirements.

Another west coast plant reports purchasing about 4,000,000 feet of No. 2 and better rough green lumber annually and about a million square feet of ¼ inch and ¾ inch plywood. The lumber purchased by this company is mostly 2 inch and 4 to 12 inches wide.

One Western company treats all its lumber with Lignasan.

Very large quantities of special nails, bolts nuts and fasteners are necessary. One plant reports using five carloads of nails a year and that it is not unusual for it to have $35,000 worth of bolts and fasteners on hand.

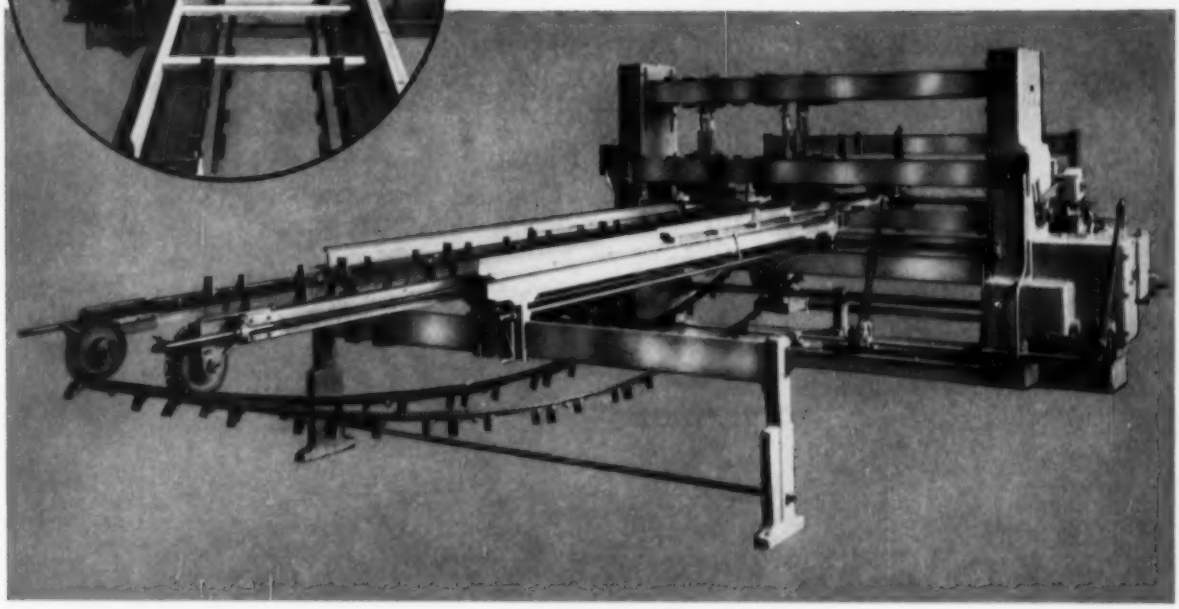
Then there has to be a carpenter shop for producing and repairing jigs.



NEW

SARANAC U.H. STAPLING MACHINE

Makes stronger pallets at lowest cost—



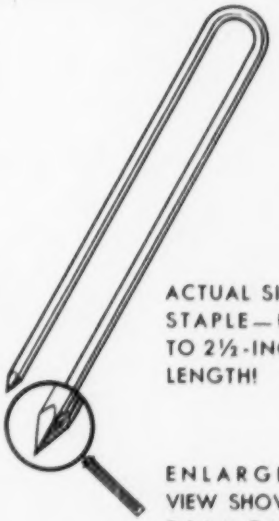
—FEATURING NEW SARANAC STAPLING HEADS THAT CUT AND DRIVE "DIAMOND POINT" STAPLES

IF YOU BUILD PALLETS OR CRATE BASES, you'll recognize big advantages in these new Saranac-engineered units. Like all Saranac Machines, they cut, form and drive their own staples direct from coils of low-cost wire available almost anywhere. Driving heads support and guide staples all the way.

NOW "DIAMOND POINT" STAPLES, formed by the new type stapling heads, provide extra benefits: (1) They drive straight due to staple point design. (2) They'll drive through hard materials that nails won't penetrate. (3) They don't splinter wood on back side—assuring a smoother clinch. (4) They provide 40% greater holding power—do not tend to split the material. (5) They can be up to 2½" long —to fasten combined wood layers up to 2" thickness.

PUT YOUR PLANT AHEAD of competition with advanced, heavy-duty machines that provide the strongest of all low-cost fasteners! Saranac builds both hand-feed and chain-feed models—to suit any volume of pallet or crate base production needed.

WRITE FOR DETAILS ON NEW SARANAC U.H. PALLET STAPLING MACHINES!



ACTUAL SIZE STAPLE—UP TO 2½-INCH LENGTH!

ENLARGED VIEW SHOWS DIAMOND SHAPED POINT

SARANAC MACHINE COMPANY

BENTON HARBOR • MICHIGAN

Manufacturers of the World's Largest Line of Fastening Machinery

IN 1905 fir plywood was just a novelty displayed at Portland's Lewis & Clark Exposition

Today, after its first half century of helping America build better, fir plywood is preferred for countless building jobs . . .

in the home on the farm in industry

on the land and on the sea

Five factors account for fir plywood's spectacular growth:

1. Size, strength, versatility 2. Ever-advancing improvements in manufacturing techniques

3. Product research and development 4. Quality of product maintained through industry inspection and trademarking

5. Continuing effective industry sales promotion to expanding markets

DOUGLAS FIR PLYWOOD ASSOCIATION • TACOMA 2, WASHINGTON

Plywood

Plywood in '54 Pushed Up To Highest Point In Its 50-yr. History

GIANT PRESSES, such as the multi-opening hydraulic hot press shown here, turned out the largest volume of softwood plywood in 1954 that was ever recorded . . . nearly 5 billion square feet in western U. S. plants and in British Columbia.

STRONG BUT NOT pretty, Douglas fir sheathing grade plywood is the newest look responsible in part for the steady growth during 1954 of the nation's softwood plywood industry, which is centered in the western states. Sheathing comprises about 25 per cent of today's plywood output, up from 10 percent in 1951.

Predictions were that the plywood industry was in for a rough time in 1954, but total U. S. production of Douglas fir plywood zoomed to an estimated 3.8 billion sq. ft., a gain of 2 million feet over 1953. British Columbia added another 550 million square feet, with pine plywood production totaling 275 million square feet, redwood 26 million square feet and other softwoods 87 million square feet.

The nation's total output was about 4.88 billion square feet. Of this amount, softwood plywood made in the western states and B. C. totaled 475 billion square feet and hardwood plywood ran to 127 million square feet.

A TOTAL OF 111 softwood plywood plants in the western states, Alaska and British Columbia turned out the laminated panels. Seven new plants came into production.

Last spring, order files were skimpy and prices weak, with production running at about 75 million feet a week. A record low of 252 million feet in the order file was recorded.

Then came the west coast, which shut down sawmills and most logging for 84 days. Production plummeted from 90 percent of capacity to 40 million feet weekly. During the strike the industry operated at about half capacity.

When the strike ended, overall business conditions were good. Order backlogs at year's end climbed to new highs, reaching about 550 million sq. ft. For the first five weeks of 1955 production ran 24 percent ahead of the 1954 period.

WHERE IS PLYWOOD used? How did the market increase in 1954?

About half is consumed by new construction, with housing getting the lion's share. Non-residential construction uses the smooth sheets in forms for pouring concrete.

Furniture, luggage and boat building consume about one-fifth of the output.

Doing over old homes and buildings takes perhaps fifteen percent of the output.

Plywood is taking markets away from lumber—and that's of concern to the promotion men of the board industry. It's proved by the data released by Stanford Institute: In 1940, plywood got away with 144 million board feet. In 1953, it got bolder and walked away with 458 million board feet. In 1954, it made a touchdown with one billion board feet. The Institute predicts a lumber market loss of 1.8 billion board feet by 1975.

RESPONSIBLE FOR much of this steady upsurge in markets is sheathing—a utility grade of plywood—a product made necesary in part by the changing character of raw material. Smaller, knottier logs aren't suited for high-grade veneers, but they make strong unsanded panels that find favor in residential construction—for subflooring, roofs and siding. Sheathing costs more than lumber, but it lays up faster. Saving labor costs is important, so plywood steals the market.

One of the most outstanding characteristics of the plywood industry—accentuated in 1954—is the trend toward use of surface materials other than Douglas fir veneer. "You can't hardly get them no more" is the reaction of many mills facing the problem of obtaining the large old-growth Douglas fir logs that peel off unblemished face stock.

SO THE TREND is toward the newly important "specialties." Some of the larger specialty mills now turn out little or no Douglas fir face stock plywood.

Following the timber supply, the plywood industry continued swinging southward in 1954. Washington, long a leader in plywood production, has lost its first place as it has in lumber. Oregon now holds both firsts in the national scene. California is second in lumber and is coming up fast in plywood.

The scramble for logs continued in 1954. Both sawmills and plywood plants are after the same grade 3 logs for raw material. This is reflected in the intense bidding that occurs at public timber sales, with one sale in northern Washington going at about $67 a M board feet. Open market buying is getting tougher and more competitive; log "swapping" is becoming more prevalent.

TWO MAJOR PLYWOOD producers expanded their production facilities and timber holdings in 1954. Georgia-Pacific Plywood Co. purchased the Oregon-Mesabi Corp. timber holdings in western Oregon. U. S. Plywood Corp. purchased Associated Plywood Mills, one of the industry's oldest plants. U. S. Plywood markets about 15 percent of the industry's total output. U. S. Plywood, M&M Wood-Working Co. and Georgia-Pacific comprise about 30 percent of the total fir plywood output.

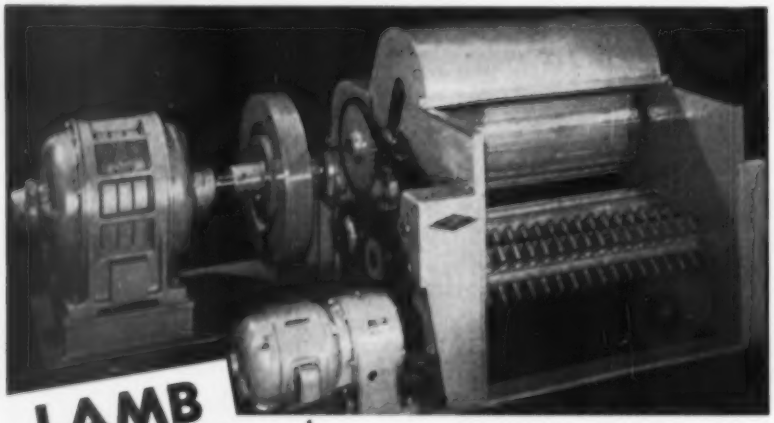
The look ahead for 1955 is good and the industry is swinging into its Golden Jubilee year with healthy order files, optimism and the desire and techniques to bolster existing markets and create new ones.

Plywood

Production of Douglas Fir Plywood by Grades, 1944-1954

Type	Grade	1954	1953	1952	1951	1950	1949	1948	1947	1946	1945	1944
Interior	A-A	4.23	4.85	5.99	6.31	8.47	9.52	9.76	12.12	13.27	17.62	25.46
	A-B	4.32	4.48	4.87	4.58	5.30	5.71	..	..	..	..	..
	A-D	31.51	32.09	33.19	35.27	38.86	38.98	37.71	34.69	36.78	40.61	36.79
	B-B	1.17	1.29	1.23	1.58	1.73	3.47	..	..	..	..	..
	B-D	1.25	1.38	1.56	1.71	2.11	1.91	..	..	..	..	..
	C-D	25.78	24.59	21.94	14.00	14.77	15.69	13.58	12.72	16.77	8.40	10.18
Exterior	A-A	1.74	2.24	2.55	2.63	2.53	3.32	3.67	4.71	6.66	9.44	8.45
	A-B	1.70	1.82	1.83	2.78	2.38	2.14	..	..	..	..	..
	A-C	11.60	11.99	12.31	17.24	12.45	9.68	28.41	29.04	22.70	19.83	16.21
	B-B	5.70	5.49	4.92	3.32	3.24	3.24	..	..	..	..	..
	B-C	.29	.39	.47	.69	.32	.37	..	..	..	..	..
	C-C	1.29	1.09	1.24	.88	.47	.48	1.48	.88	.59	.47	.37
Other		9.42	8.30	7.90	9.01	7.37	5.49	5.39	5.84	3.23	3.63	2.60
Total		100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Production in millions of sq. ft., ⅜" basis		3,850	3,670	3,050	2,867	2,554	1,899	1,871	1,630	1,395	1,200	1,440

Source: Douglas Fir Plywood Association.



LAMB VENEER HOGS

Standard Equipment IN THE Plywood and Veneer INDUSTRY

LAMB

"The above heavy duty high speed ROLL FEED HOG enables feeding at greater speed than with other feed tables giving greater capacity and more uniform distribution of waste throughout the entire mill conveying system.

Maintenance costs are reduced by using the grizzly roll which acts to break up curled veneer trim and allows small bark, gravel and dirt to pass directly into the fuel conveyor without damaging knives.

LAMB HOGS are available in five sizes, 24-inch to 48-inch width of cutting face, with horizontal or inclined chain or belt feed table, horizontal roll feed, or angle feed by gravity or shaker hopper."

* * *

Let us quote you on the hog most suitable for YOUR requirements

LAMB HOGS have been in service for many years in the plywood and veneers plants of the United States and other countries.

Manufactured by

LAMB-GRAYS HARBOR CO., INC.

HOQUIAM, WASHINGTON, U.S.A. Phone Hoquiam 1000

Sold in Western United States by

TALLMAN MACHINERY COMPANY

2057 15TH AVENUE, WEST SEATTLE, WASHINGTON

Shipments of Plyscord* During Last 6 Years

Year	Sq. Ft.
1949	277,818,111
1950	334,887,149
1951	334,763,432
1952	568,887,998
1953	902,560,000
1954	962,885,000

*Structural grade plywood.

Per Capita Consumption of Plywood in U. S.

Year	Fir Plywood Production In Millions	Per Capita (Sq. Ft.)
1946	1,395	10.
1947	1,630	11.4
1948	1,871	12.8
1949	1,889	12.7
1950	2,554	16.9
1951	2,866	18.7
1952	3,049	19.8
1953	3,670	23.3
1954	3,850	24.1

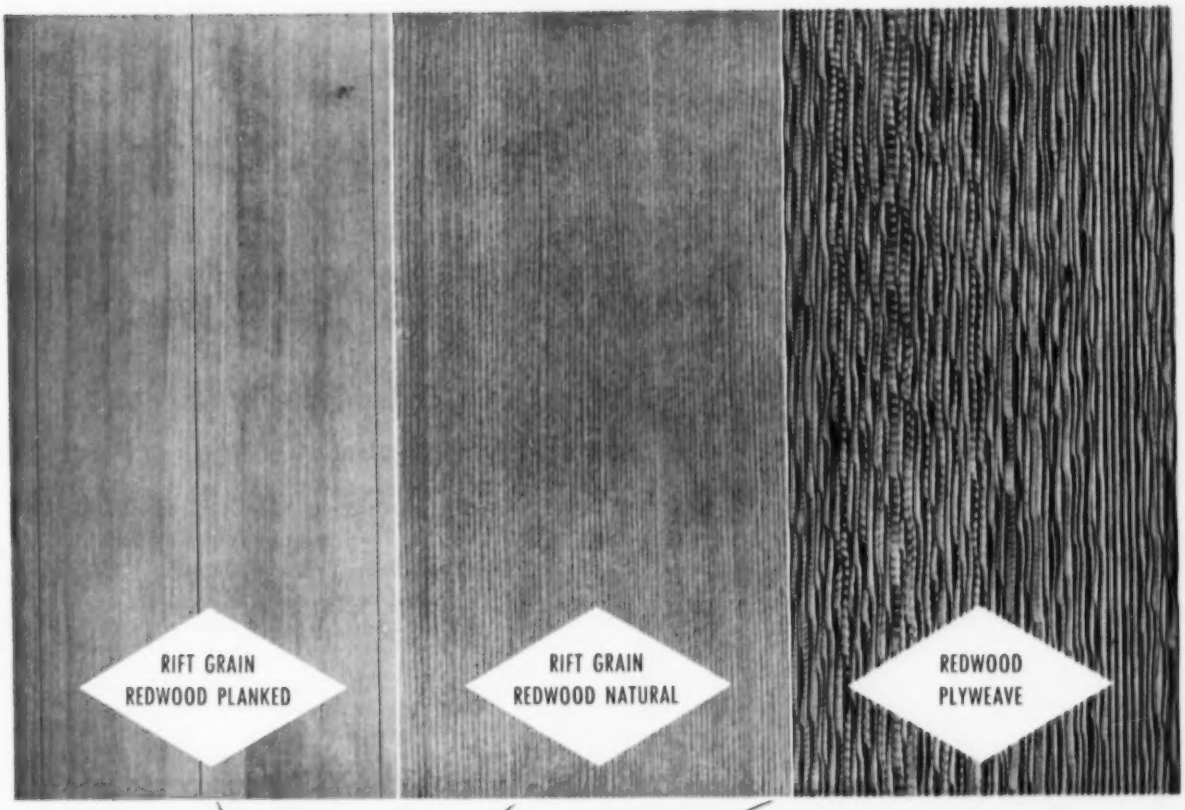
Douglas Fir Plywood Production in U.S.

(Sq. Ft. ⅜" Basis)

1924	125,000,000	1939	950,000,000
1925	153,000,000	1940	1,200,000,000
1930	305,000,000	1941	1,620,000,000
1935	480,000,000	1942	1,782,000,000
1936	700,000,000	1943	1,430,000,000
1937	725,000,000	1944	1,440,000,000
1938	650,000,000		

Year*	In Million Sq. Ft.	No. of Mills
1945	1,200	31
1946	1,395	33
1947	1,630	40
1948	1,871	45
1949	1,899	55
1950	2,554	67
1951	2,867	76
1952	3,050	85
1953	3,670	91
1954	3,850	97

*Figures from 1945-53 from Douglas Fir Plywood Association.



Malarkey announces

3 riff grain redwood plywoods

Malarkey was the first.* Yes, the first to wed the strength and utility of plywood with the world's choice wood . . . redwood. That was in 1949—only 5 years ago. And now distributors of Malarkey plywoods throughout the United States are delivering to their customers the *choice* of redwood plywoods . . . *Malarkey rift grain* . . . and in three patterns as shown above:

Rift Grain natural—a smooth panel with no grooves.

Rift Grain planked—with vee-groves running the length of the panel every 5, 11, 7, 9, 10 and 6 inches.

Plyweave—woven pattern embossed into the wood.

Malarkey rift grain redwood plywoods are being used extensively for finer homes, shops and offices throughout the country. They are available in standard plywood sizes and thicknesses. *Specifiers catalog sheet on "Malarkey Redwoods" will be sent upon request.*

← **Nation's Leading Designers and House Beautiful Magazine** used Malarkey Rift Grain Redwood plywood extensively in the Fine Arts Building of the Los Angeles County Fair.

*And is the only volume producer of redwood plywoods.

MALARKEY McM

Makes marvelous plywoods, doors and lumber

MEMBER: D.F.P.A., F.D.I. AND C.R.A.

2301 N. Columbia Boulevard, Portland 17, Oregon

Now!

MIXED CAR SHIPMENTS

...from one dependable source of diversified high-quality panel products

The economy and convenience of mixed car shipments are yours—with any or all of the diversified list of Anacortes Veneer's ARMOR brand panel products.

ARMORBOND

HARDBOARD

SHEATHING 60" WIDTHS

1/16" HARDBOARD

UNDERLAYMENT

ARMORBORD

BOAT HULL PANELS

EXTERIOR FIR PLYWOOD

PLASTIC SURFACED HARDBOARDS

PING-PONG TABLES

INTERIOR FIR PLYWOOD

PLASTIC SURFACED PLYWOOD

LONG PANELS

CONCRETE FORM PLYWOOD

HARDBOARD ON FIR

ARMORON

ARMORALL

ANACORTES VENEER, Inc.

General Sales Office: Anacortes, Wash.

Midwestern Sales Office: 13375 Watertown Plank Road, Elm Grove, Wis. • Eastern Sales Office: Industrial Office Bldg., Newark, N.J.

Plywood

Fir plywood was born here in 1905 . . . **The same plant site 50 years later . . .**

THIS IS THE GOLDEN anniversary of the Douglas fir plywood industry, which was born in 1950 in the little plant shown above at the left: the Portland Manufacturing Co. on the Columbia River below Portland, Ore. Experiments in making veneer for vegetable crating blossomed into the huge physical layout at the right, the present M & M Working Co., Portland Plywood Division.

This year, the fir plywood industry of the west coast will measure its output in terms of billions of feet, its product value in millions of dollars and its work force in tens of thousands.

Manufacturers will celebrate their Golden Jubilee Anniversary with a promotion program that they hope will make fir plywood a household word. Part of it will consist of a traveling circus that will wend its way from Bellingham, Wash., south to Portland, Ore., birthplace of the industry, where dramatic displays will be featured.

BACK IN 1905 at the Lewis & Clark Exposition in Portland, Ore., they called it veneer.

In the forestry building at the exposition, Portland Mfg. Co. displayed the first Douglas fir plywood. It went almost unnoticed!

But, in G. H. Carlson's Portland Manufacturing Co. plant had been born a new industry that was to grow through lusty, hard, daring years to the giant that now produces nearly four billion square feet of Douglas fir plywood a year.

These workmen who helped found an industry worked for men like Carlson, Peter Autzen, who became president; N. J. Bailey, first superintendent; and Oscar Mason, plant superintendent.

Mason's records reveal that in 1908 the plant turned out about 1200 square feet a day for a highly limited market! Today industry presses about 12 million sq. ft. per day.

EARLY PLYWOOD wasn't cheap. A price list for 1913 shows 22 cents a square foot for one side good, 26 cents for two sides good. In today's dollars, those prices represented $600 and $700 per thousand feet. By the time the United States had entered the first World War, Buffelen Lumber and Manufacturing Co. of Tacoma had begun to produce door panels. Other firms came along.

Highlights of the intervening years are tabulated for easy reference in an accompanying presentation.

Thumbnail History of 50 Years of Douglas Fir Plywood Mfg.

May 7, 1901:

Portland Manufacturing Co. of St. Johns, Ore. incorporated with Gustav A. Carlson, F. S. Doernbecher and M. L. Holbrook as owners. A year later, Doernbecher and Holbrook were bought out by Peter Autzen, prominent Grays Harbor logging man.

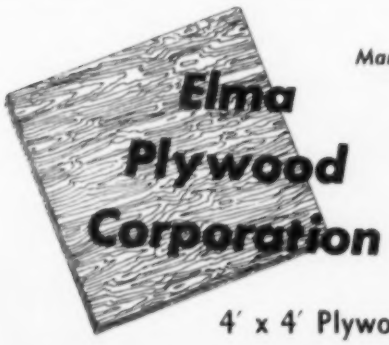
Spring, 1905:

First fir plywood panels manufactured at the Portland Manufacturing Co. for the Lewis & Clark World's Fair Exposition in Portland, Tom Autzen, son of Peter, managed the exhibit for the firm and reported considerable interest in the new panels.

October, 1905:

Manager Carlson announces that the Portland Manufacturing Co. was building up a good business in glued veneered stock for factory use. (He referred to the door panel business, then virtually the only market for plywood.)

(Continued on page 102)



Manufacturers of

4'x4' PLYWOOD SHEATHING

Telephone Elma 2521
ELMA, WASHINGTON

4' x 4' Plywood Sheathing for Economy in Price and Ease in Handling

Plywood

PROMOTING PRODUCTION

Plywood History (Con't.)

1910:

George R. Osgood and William C. Wheeler start fir panel manufacture in the Wheeler-Osgood Co. of Tacoma to provide a handy source of door panel stock.

1912:

George J. Osgood, son of George R., and Henry McCleary begin plywood panel manufacturing at McCleary, Wash. Wheeler-Osgood of Tacoma hire Bill Nurenburg as the first coast-to-coast salesman for fir plywood and Nurenburg takes the new panels across the Rockie for the first time.

1914 and 1915:

First automatic veneer dryers installed at Wheeler-Osgood, McCleary and Portland Manufacturing Co. Plywood plants find additional markets in drawer bottom business and make many sales for trunk stock.

1920:

Craig Spencer and Gus Bartells build Elliott Bay Mill Co. in Seattle, the first plant constructed to produce fir plywood as a general utility panel.

1921:

120 men band together under the leadership of J. G. Lucas, Axel Erickson and Ed Westman to form the fir plywood industry's first cooperative. Make contract with Pacific Mutual Door Co. to handle

(Continued on page 106)

Fir Plywood Industry Sets Gears in 1955 To Raise Weekly Production 10 Million sq. ft. Over 1954

THE BIGGEST promotional program in the history of fir plywood is in the offing for '55. It is a Golden Jubilee designed to use the industry's 50th birthday as a promotional key to selling an additional 10,000,000 sq. ft. of fir plywood weekly in 1955.

Although the program is more intensive in its market penetration and broader in scope than ever before, it is in effect, a logical extension of the basic program established in 1938.

That is the starting point of continuity in joint industry sales promotion of fir plywood. Previous attempts beginning in the middle twenties were moderately successful but it was not until 1937 that the manufacturers were able to agree on the foundation for a continuing program.

ABOUT SIX MONTHS later, in the first part of 1938, they employed W. E. Difford as managing director of Douglas Fir Plywood Association to direct the program. Difford made several basic changes. Recognizing that glue-lines were the key to quality and that confidence in glue-line durability was necessary for acceptance of the product, he established the industry's joint quality control program upon entirely new lines.

Quality supervisors were equipped with pyrometers and other instruments to develop the exact production line data necessary to determine factors making for improved glue-lines. A then new system of statistically randomized sampling was instituted to hold down costs of the program. Exposure studies were begun and carefully correlated with laboratory data to complete the performance quality picture.

Within days after passage of a new law permitting associations to own grademarks, DFPA registered the first association grade trademark in the country. It was Plyscord. Mills cooperated by relinquishing other individual brand names and the industry's promotion was keyed to joint trademarks for all grades.

WITH THIS AS A BASE, emphasis on advertising was switched from the expensive consumer level of the specifier—the architect, the builder, the code authority and government official. To buttress this effort, DFPA launched a modest program of product research to develop the technical data essential to support sales effort behind the product.

Emphasis was also placed on "how

(Continued on page 106)

NP

NAKAMURA

Beautiful Hardwood Plywood

ASSURED QUALITY
EXPERIENCED MANUFACTURE
PRODUCT DEVELOPMENT
RELIABLE SERVICE

From Two Big Modern Plants

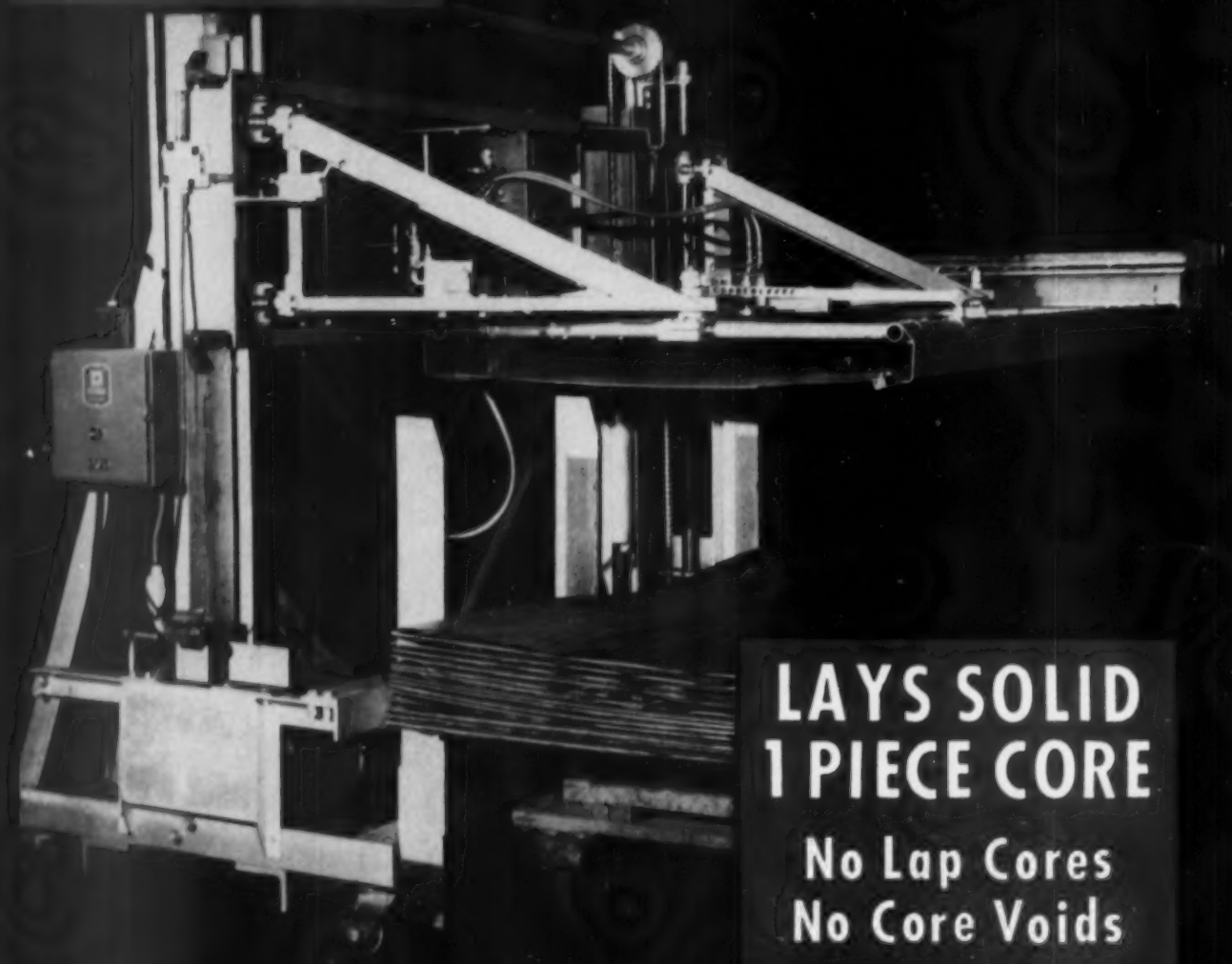
Philippine Mahogany ★ Sen ★ Birch ★ Oak

NAKAMURA PLYWOOD MFG. CO.

NAGOYA, JAPAN

QUALITY PLYWOOD ASSEMBLER

MECHANICAL CORE LAYER



LAYS SOLID 1 PIECE CORE

No Lap Cores
No Core Voids

THIS MACHINE lays one piece or edge glued core. Eliminates all waste. No lap cores, open voids, rip backs and cut-offs.

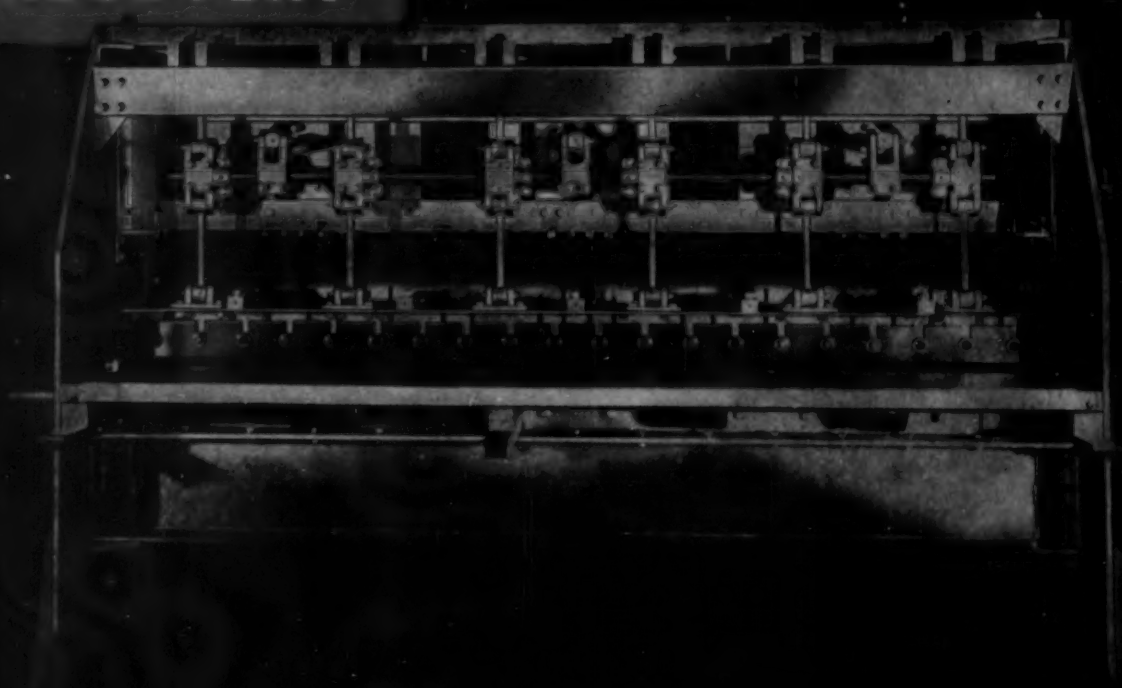
ELLIOTT BAY PLYWOOD MACHINES COMPANY

600 West Spokane Street, Seattle 4, Washington

Sales Representative: WIENKER MACHINERY CO., Maritime Bldg., Seattle 4, Washington

GREATER VENEER RECOVERY

Achieved with the
ELLIOTT BAY SEMI-AUTOMATIC CLIPPER



FOR ALL VENEER OPERATIONS

Greater efficiency in veneer cutting is introduced by the Elliott Bay Semi-Automatic Clipper, proved by years of successful operation in many Douglas fir, pine and hardwood plywood factories.

Plant space is conserved as long storage trays are unnecessary, the Elliott Bay Clipper can be short-coupled to the lathe, with which it is synchronized at lathe speed.

Tearing of veneer is eliminated, thus saving raw material, the clean-cutting clipper knife operates against a long-lasting copper shear bar.

Push button controls afford accurate selectivity of veneer of varying widths. The advanced and tested Elliott Bay Clipper is of all-steel, precision construction. Ease of installation and minimum upkeep demonstrated repeatedly.

SAVES SPACE
FAST-ACTING
ACCURATE

ELLIOTT BAY PLYWOOD MACHINES COMPANY

600 West Spokane Street, Seattle 4, Washington

Sales Representative: WIENKER MACHINERY CO., Maritime Bldg., Seattle 4, Washington

Plywood

Plywood History (Con't.)

their output. Bill Bailey, later vice president and general manager for Aircraft Plywood Corp. and U. S. Plywood in Seattle hired to run Olympia Veneer.

1923:

I. F. Laucks laboratory in Seattle develops an economic soybean glue—water resistant but not waterproof.

1925:

Harry Knox, Ed Daniels, Bob Wuest and Art Welch start Harbor Plywood Corp. at Aberdeen after Sedro-Woolley Box and Veneer Co. burns to the ground.

1926:

Wheeler-Osgood develops roller pressure bar which allows cold peeling of logs. Sales to automobile manufacturer steps up and hundreds of thousands of feet of fir plywood sold for running and floor boards.

1928:

Douglas Fir Plywood Institute formed to standardize grades, Oscar Mason hired as first inspector. (Institute later became inactive.)

1929:

James Malarkey and the M & M Wood Working Co. start new plant at Longview.

1930:

Bust follows boom and crash of '29 and plywood industry experiences hard times. Automobile manufacturers complain of a lack of a waterproof glueline and shut

(Continued on page 108)

Promoting Production

(Continued from page 102)

to's" in fir plywood to educate the professional user on the most economical methods of application.

The need for market level assistance in the field was met with the development of a field promotion force of trained architects and engineers—plywood salesmen without portfolio, able to influence markets not otherwise reached.

At the same time, the program recognized the essential place in the distribution system of the lumber dealer who accounts for the sale of 50% of total plywood output. An educational and promotional program was established with the specific aim of enlisting the nation's lumber dealers in the move to broaden plywood markets.

IN 1954, FOR the seventh consecutive year, the industry broke all production records with a total output of 3.85 billion feet. During the postwar era, per capita consumption of fir plywood has more than doubled; last year it was 23 feet per head.

During the same period, plywood advertising made better than 450 million impressions in 89 publications, and 25 million viewers saw two new TV plywood shorts.

An expanded field force of 25 men covering 360 basic trading areas made close to 24,000 personal calls. The merchandising department developed 50 new project designs and released 2 million copies of plywood plans and literature. The technical department published seven basic laboratory reports and bulletins.

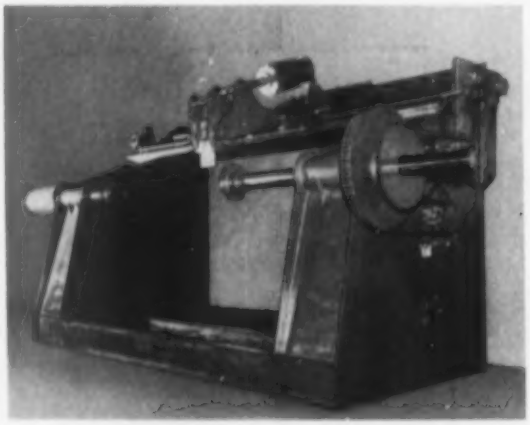
FIELD PROMOTION representatives have completed a survey of 4,800 lumber dealers to find out exactly what kind of merchandising aids are best fitted to help dealers increase their plywood sales. The survey covered a broader base than anything of its kind previously attempted and new merchandising tools for lumber dealers will be based on its results.

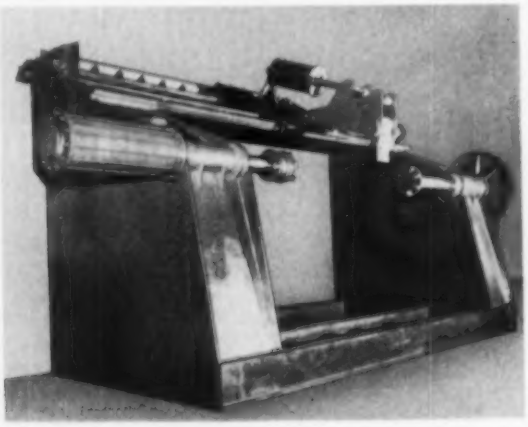
In 1955, the industry will promote "50 Golden Ideas" for better building. They have been designed by five of the nation's topflight architects and they are the core of the basic promotion scheduled for this anniversary year.

Nearly ready for printing is a book of almost 50 new do-it-yourself projects that covers the field of things to make at home. New boat plans and a new movie are in offing for this fall.

The promotion will reach a high point in June with the biggest meeting of plywood personnel including suppliers and distributors ever held.

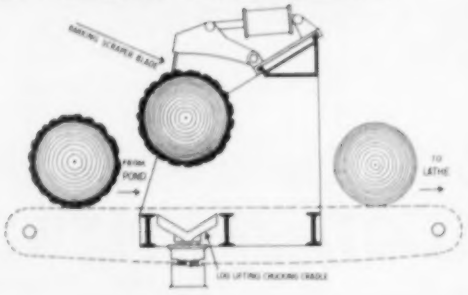
The aim of the entire effort in 1955 is annual sales of 4.3 billion feet or better. At this writing, the industry holds the biggest backlog of orders, 556 million feet, in its history and there is every indication that despite seasonal fluctuation, demand will remain strong throughout this year.





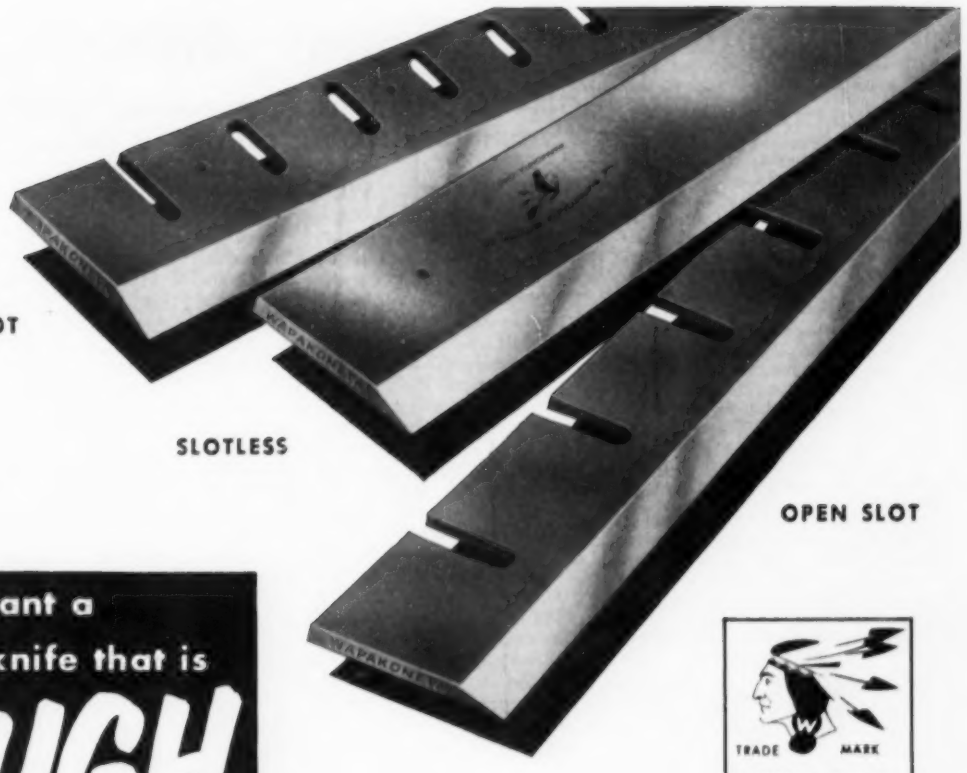
NICHOLSON PRODUCTION LINE BARKER

High Speed Barking Large & Small Logs
Air Chucking & Roller Chain Spindle Drive
Scraper Blade and/or Rosser Head For Barking
Practically Immediate Delivery
Very Heavy Construction Throughout
Saves Valuable Manpower
Reduces Initial Investment
Patented
No Overhead Crane Required



NICHOLSON
Manufacturing Company Inc.

Designers and Builders of Production Woodworking Machinery Log Barkers Sash and Door Machines Trim Saws Special Machinery
OFFICE AND PLANT: 5416 14th Avenue Northwest
SEATTLE 7, WASH. HEmlock 0133



if you want a veneer knife that is

TOUGH

TRADE MARK
SINCE 1891

get a WAPAKONETA and get a cutting edge that stays keen!

SPECIFY WAPAKONETA PLANER KNIVES for working various kinds of woods: BIG CHIEF for general, all-purpose uses; MOHAWK for green Southern pine and other soft woods; SUPER MOHAWK for hard woods, glue joints and other difficult jobs; MULTNOMAH for Western woods.

A WAPAKONETA KNIFE FOR EVERY USE. SHAPER STEEL, high tungsten content with exact 60° bevel, ground with greatest care to a mirror finish. CHIPPER KNIVES cut cleanly with fewer oversize chips and little dust waste. HOG KNIVES of the finest tool steel, tough, shock-resistant, and economical.

A veneer knife must be custom-built to the exact specifications of the job. To hold an extremely keen edge under severe operating conditions, the proper analysis of electric-induction tool steel is welded under high pressure to a soft steel back and precisely tempered. Three important operations combine to produce Wapakoneta Veneer Knives: selection of top-grade tool steels for quality performance, heat treatment for correct hardness; high tensile strength and resistance to abrasion; proper and precision grinding for a true cutting edge.

Years of field testing and laboratory work have gone into the development of the fine steels and modern machining methods which mark a Wapakoneta Veneer knife. Engineered to the individual job, Wapakoneta Veneer Knives are available in open slot, closed slot and slotless types.

Write for complete, free catalog of Wapakoneta Machine Knives

THE WAPAKONETA MACHINE CO.

WAPAKONETA, OHIO

Knives Engineered for the Job Since 1891

Plywood History (Con't.)

the door in the plywood industry's face, start using other materials in cars.

1933:

Manufacturers agree on first U. S. Commercial Standard for fir plywood. NRA brings revival of industry trade association to administer new codes and Douglas Fir Plywood Association begins functioning. Henry McCleary is first president.

1934:

Dr. James V. Nevin, Irish-born chemist heading Harbor Plywood's special research operation comes up with formula for synthetic phenolin resin adhesive and Harbor announces first fir plywood with 100 per cent waterproof glue.

1936:

N. S. Perkins hired to develop technical data for DFPA.

1937:

Lawrence Ottinger buys Aircraft Plywood and renames it United States Plywood Corp. after his own distributing organization. Market turndown forces new attempt at joint promotion. Historic Pacific Beach meeting arranged to bolster advertising, reviving Douglas Fir Plywood Association.

W. E. Difford named managing director of DFPA. Industry-wide quality control is strengthened and stream-lined. DFPA registers Plyscord as first grademark in the nation owned by an association. Neville expedition down Colorado river and Byrd Antartic expedition focuses attention on plywood with waterproof glue. FHA accepts plywood.

1941:

War — Strength of industry's quality control program is such that no government inspector ever enters a plant.

1944:

American troops storm the Rhine in featherweight plywood assault boats flown from West Coast.

1946:

Plywood industry back on peacetime basis.

1948:

New production record for first time since war years.

1953:

Difford, back to DFPA after 6

(Continued on page 111)

BC Passes ½-Billion ft. Mark

New operations, expansions, vigorous promotion denote continued prosperity

THE DOUGLAS FIR plywood industry in British Columbia took another long production stride forward in 1954 with an estimated manufacture of 550 million square feet, computed on a ⅜-inch basis. This figure represents an increase of more than 80 million feet over 1953. The industry continued to step up production of textured and hardwood-surfaced plywoods, and a limited amount of resin overlay was manufactured.

Two new plants started operation mid-way through the year, Sooke Lake Lumber Co., Esquimalt, and Mount Baker Plywood's veneer operation at New Westminster. The Sooke Lake plant, designed to handle somewhat smaller logs than other mills, started with a production capacity of 2,500,000 square feet, ⅜ inch basis per month. The Fraser River plant of Mount Baker Plywoods has an estimated output of 40,000 square feet of veneer daily. Veener is shipped to the parent company at Bellingham, Wash., for conversion to plywood.

A THIRD NEW PLANT for Evans Products Ltd. started construction last September and is expected to be producing green veneer shortly, and plywood in June. Capacity will be in the neighborhood of 3,000,000 square feet ⅜-inch basis per month.

The year saw market expansion in mills throughout the province, with Canadian Lumber Company leading the way with a $1,000,000 program

(THE LUMBERMAN, November 1954). Pacific Veneer Division of Canadian Forest Products added new equipment, notably three Lawrence automatic panel feeders, and automatic stacking units, used in conjunction with the feeders. Other equipment included a unit for stacking waste cores from lathes, and automatic strapping machines for bundling plywood in the shipping department.

DURING THE YEAR several promotional ideas were developed by the Plywood Manufacturers Association. A touring plywood farm show appeared at seven major fairs in Canadian prairie cities, and introduced to farm consumers manufacturing processes, properties and applications of fir plywood. Another scheme, started in 1953 by plywood, lumber and shingle industries was finalized, and 10 "Trend" houses were put on display across Canada in major cities.

The market for plywood continued to be active throughout the year. Easing of restrictions on exports to Britain brought about a revived interest in overseas markets in the fall, and sales possibilities in the United Kingdom were under study as the year ended.

British Columbia Plywood Production

1941-1954—Square feet, ⅜-inch basis

1941 – 173,000,000
1942 – 184,000,000
1943 – 195,000,000
1944 – 218,000,000
1945 – 204,000,000
1946 – 224,000,000
1947 – 296,000,000
1948 – 338,000,000
1949 – 300,000,000
1950 – 349,000,000
1951 – 406,000,000
1952 – 440,000,000
1953 – 580,000,000*
1954 – 663,000,000

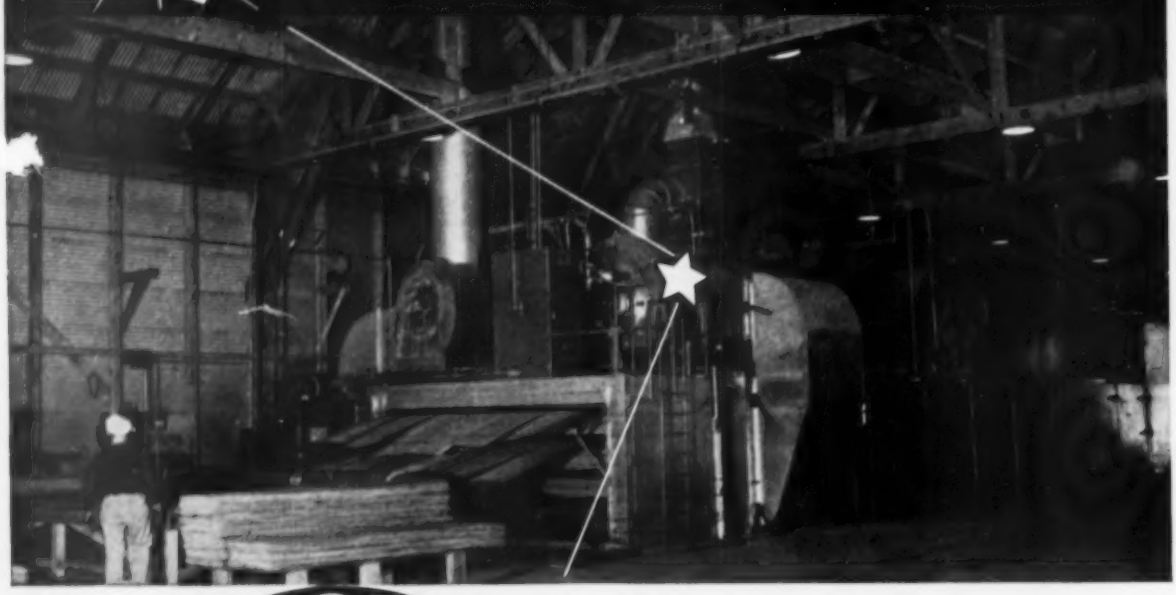
(*Preliminary production figure.)

CAMPBELL & McLEAN, Inc.
DOUGLAS FIR
PLYWOOD
AND VENEER
MILLS: GOLD BEACH AND EUGENE, OREGON
General Sales Agent:
CAMAC PLYWOOD SALES, INC.
199 N. Bertelson Road
Telephone 4-1623
Eugene, Ore.
Teletype: EG 120
Manufacturers of
INTERIOR
CAMAC
CAMAC

SOUTHERN OREGON
PLYWOODS, INC.
GRANTS PASS, OREGON
Manufacturers of
DOUGLAS FIR PLYWOOD
EXTERIOR GRADES
INTERIOR GRADES
A great product with a
solid heart and fine finish

Star

New Feature In Standard Veneer's $250,000 Expansion Program . . .



THE COE ★ OIL DIRECT-FIRED VENEER DRYER

Gratifying success followed the starting of green veneer operations in 1951 by Standard Veneer & Timber Company of Crescent City, Colorado.

As a logical sequence the company shortly inaugurated a $250,000 expansion program to handle its new glue-up operations.

Important among new machines installed was a Coe 10 section, 4 line veneer dryer which is unique in that it embodies the first direct-fired oil burner system to be used in the industry. Included also is a Coe automatic feed unit which delivers a continuous supply of wet veneer to the several decks.

This new oil heating system will be of interest to veneer producers who have an inadequate supply of waste for fuel or who may have more advantageous uses for such material. Complete information will be supplied promptly upon request.

The COE MFG. Company
PAINESVILLE, OHIO

LATHES • CLIPPERS • DRYERS • KNIFE GRINDERS

4 Billion Sq. Ft. Plywood Affected by New Grades

SOME NEW DOUGLAS fir plywood grades and stiffening of other grades are included in a new commercial standard issued through the national bureau of standards in cooperation with the industry. Effective immediately, it affects about 4 billion square feet of production annually, or about 75 per cent of the total U. S. plywood production.

According to the Douglas Fir Plywood Assoc. the most significant changes are:

1. A new low-cost underlayment grade called "plybase," a name previously used on a different panel. It is a sanded structural grade with one repaired surface smooth and solid enough for all types of resilient flooring.

2. The new "special order" items with outstanding appearance for use with clear or natural finish. Made in limited quantity, they will be a quarter-inch "natural-finish one-side" for walls. The second is "natural-finish two-sides" with two select faces and solid inner plys for cabinet work.

3. New grading rules improve the appearance of "A" veneer.

4. Standardized requirements for overlaid plywood, one grade being a medium-density overlay of resin-impregnated fiber for painting, and the second a high-density grade, glass-smooth and highly abrasion resistant.

5. New written requirements for interior adhesives.

6. Glue-line performance specifications for special decorative or textured surface panels.

In total, the new standards set up nine grades of interior and seven of exterior fir plywood.

Plywood History (Con't.)

yr. absence, initiates new approach to lumber dealers with 8-Way merchandising program which grows into most successful effort of its kind in building materials field.

1954:

Per capita consumption of fir plywood reaches 23 feet. Manufacturers set seventh straight annual production record of 3.85 billion feet.

1955:

Industry celebrates 50th Anniversary with Golden Jubilee promotion keyed to 50 new ideas for plywood. Program to be climaxed by biggest all-industry meeting in plywood history.

Mills Now Making Texture 1-11

• In Jan. 1954, 10 firms were manufacturing the panel. Today there are 11 manufacturers of Texture 1-11, as follows:

Associated Plywood Mills, Inc., Eugene, Ore.
Cascades Plywood Corporation, Portland, Ore.
Everett Plywood and Door Corp., Everett, Wash.
The Long-Bell Lumber Co., Longview, Wash.
Mt. Baker Plywood, Inc., Bellingham, Wash.
Northwest Door Co., Tacoma, Wash.
Puget Sound Plywood, Inc., Tacoma, Wash.
Roseburg Lumber Co., Roseburg, Ore.
St. Paul & Tacoma Lumber Co., Tacoma, Wash.
Simpson Logging Co., Shelton, Wash.
Snellstrom Lumber Co., Eugene, Ore.

First Alaska Plywood Plant Presses All-spruce Panels

• While the Alaska Plywood Corp. at Juneau has not gone into specialties, such as hardboard or hardwood overlays, the company feels that Sitka spruce plywood constitutes somewhat of a specialty by itself.

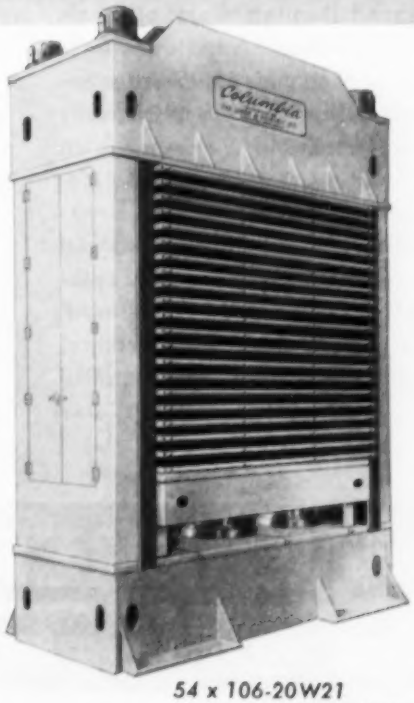
Alaska Sitka spruce plywood has already found wide adaptation to many uses, and its tame grain, very light weight and dimensional stability are claimed to be advantages. Manufacturing these panels, which are made in one of industry's most modern plants, promises to be one of Alaska's greatest year-round source of employment.

Columbia HYDRAULIC HOT PLATE PRESS FEATURE

Automatic Air-Bleeding Valve . . . . .

Gone is the trouble, mess and danger of manual air bleeding. Columbia's exclusive automatic air-bleeding valve vents entrapped air back to the oil reservoir.

THE AIR-BLEEDING PETCOCK IS GONE!



54 x 106-20W21
Hydraulic Hot Plate Press

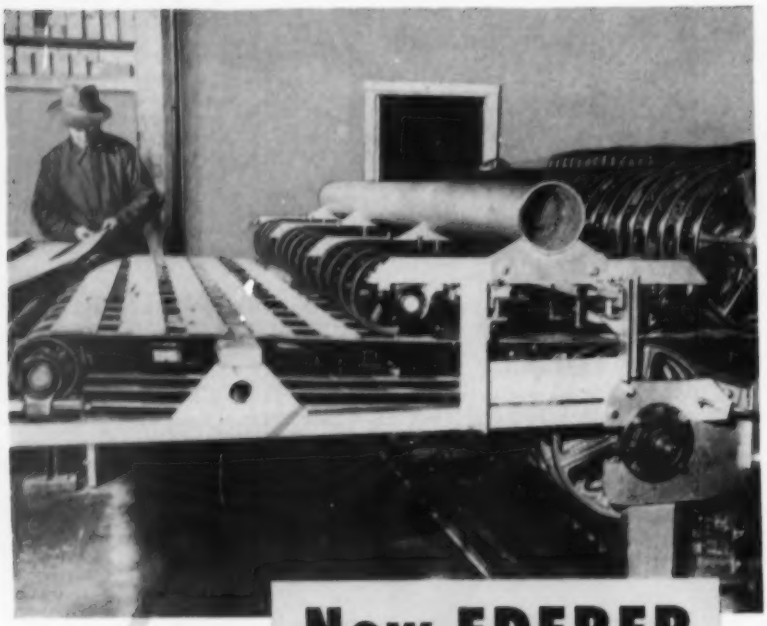
At Columbia, the experience of more than 100 years in building heavy equipment is put to work, eliminating troublesome details, streamlining machine operations for today's busy plants.

A good example is Columbia's exclusive automatic Air-Bleeding Valve. All hydraulic presses occasionally have air trapped in the hydraulic system. Air in the system can not be tolerated since it "softens" the action of the press, destroying precisely planned operating characteristics. Air-bleeding with any press *other* than a Columbia is messy, dangerous and wasteful of hydraulic oil.

All larger Columbia presses feature an automatic bleed-off, directly to the reservoir, eliminating hand bleeding. This and other features make Columbia Hydraulic Hot Plate Presses easy and economical to operate, assure dependable service and consistent production.

Write for new FREE Bulletin No. HP- 5 and the name of your nearest distributor.

Columbia DIVISION
THE LODGE & SHIPLEY COMPANY
HAMILTON 5, OHIO, U. S. A.



New EDERER
INFRA-RED VENEER
EDGE GLUER...

The new EDERER edge gluing machine uses infrared heating elements, designed for rapid drying and continuous veneer bonding. The veneer is conveyed through these elements by a series of steel bands carried over large diameter pulleys at each end. Bands are evenly spaced top and bottom and are individually counterweighted to maintain even pressure on veneer sheets. Heating elements are so designed that each can be individually controlled and each can be individually removed for cleaning or replacement. All or any combination of the 10 elements may be used. All operation is from a push button control station. [See facing page for more details.]

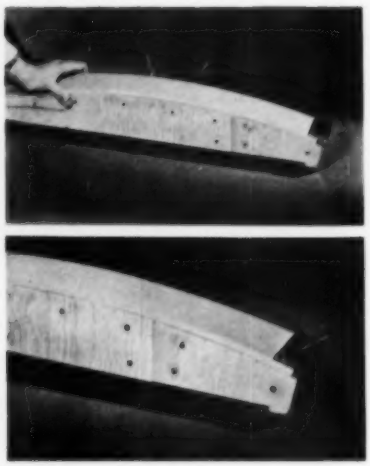
275V55

EDERER ENGINEERING COMPANY
2933 First Avenue South
Seattle 4, Washington

Export Division:
301 Clay Street
San Francisco 11, California

EDERER
PLYWOOD EQUIPMENT

OVER 50 YEARS "JOB-ENGINEERING" CRANES AND HEAVY EQUIPMENT



INTEREST IN USE of resin overlaid plywood in the marine field has prompted a great deal of testing and research, such as the experiment shown above. Here the minimum bending radii of overlays is determined.

New Potentials Uncovered To Boost Use of Overlaid Plywood in Many Fields

• Although the total footage of fir plywood with resin overlaid surfaces remains relatively small, recently there has been, and especially in 1954, a significant change in the market patterns for these premium products of the fir plywood industry.

Four years ago, by far the biggest percentage of sales was in high density plywood overlays for concrete forms. Other uses were limited and there was little acceptance of the material even in applications where it was most logical.

Because production of standard grades retarded emphasis on specialties, little attempt was made by the manufacturers to sell their products for new applications and as long as standard grades of plywood for forms remained in relatively short supply, this market continued to absorb the bulk of the industry's output.

AS PRODUCTION in standard grades began to overtake demand, the sales of overlays for forms dropped slightly. Although this would normally have reduced total overlay production to some extent, that has not occurred.

For the first time since this kind of material was introduced, volume sales are being made in a **wide** variety of applications outside the heavy construction field. The acceleration of this trend toward diversified use is one of the most significant developments of 1954 and it has crystallized the real potential for these products for the first time. Broad and growing markets are no longer a hope, they are an actuality.

MEDIUM DENSITY overlays which constituted only a trickle of sales a few years ago, today are being sold in

volume for siding, cabinets and signs. Gunnison Homes is one of the big prefabricators who use it for exterior wall surfaces. In one Gunnison model, there is 1,100 feet alone. One independent builder, for example, has used 100,000 feet on 400 new units.

Another firm is using it for traffic control signs as an ideal base for reflectorized surfaces laminated to the sign blank. The quality of the material as a paint base is leading to greatly expanding applications in signs of all types.

The material is also invading the marine construction field. Already proven in decks and superstructures in tuna clippers, cruisers and sailing craft, it is now being used for the entire hull in the volume manufacture of small boats by the west coast's leading small boat manufacturer.

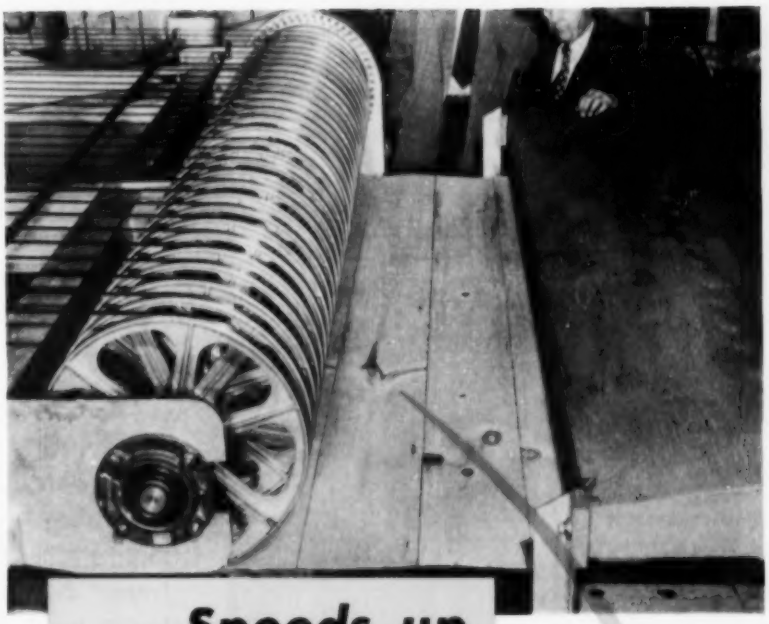
AFTER REFLECTIVE plastic sheeting is placed on the plywood above, the sign is put under 200° F. heat for 3 minutes to "weld" sheet to the surface. Result is surface with many excellent properties.

AND HARBOR PLYWOOD Corporation is grooving its overlays to provide a vertical-plank appearance in panels. St. Paul and Tacoma Lumber Co. is packaging pre-cut strips of Plyaloy for wide-lapped siding.

Today there are 8 firms making some form of resin overlaid plywood. Volume is about 30 million feet on an annual basis. Meanwhile the surge toward diversification in the use patterns for overlays has definitely crystallized what was only a potential a few years ago and there is every indication that the production and sale of the product will continue to expand.

Using New Guinea Species

• From far-off New Guinea in the South Pacific comes Klinkii to be utilized for faces and backs by California Pacific Plywoods, Inc., Sonoma, Calif. This exotic veneer is being produced in a plant called Commonwealth-New Guinea Timbers, Ltd., at Bulolo. (A complete story on this plant and its products appeared in THE LUMBERMAN, July, 1954, p. 78.)



. . . Speeds up
EDGE GLUING
...Saves Money

The new EDERER edge gluer has a speed range from 10 to 60 feet per minute, speeds easily adjusted by operator to suit type of stock being glued and type of glue being used. It will glue from 1/20-inch veneer on up; will glue birch or warped or knotty veneer; will handle flitches from three inches wide on up. On the infeed table, a special V-belt crowding device assures even contact for the full length of glue line before veneer enters the machine. An efficient automatic veneer-cooling unit is mounted at the output conveyor end. The gluer is available in three sizes to make four, eight or 10-foot wide sheets. Write for further information.

275V58

EDERER ENGINEERING COMPANY
2933 First Avenue South
Seattle 4, Washington

Export Division:
301 Clay Street
San Francisco 11, California

EDERER
PLYWOOD EQUIPMENT

OVER 50 YEARS "JOB-ENGINEERING" CRANES AND HEAVY EQUIPMENT

The Press to buy . . .

FOR HIGH P.S.I.

Siempelkamp

Here is a 2,000 p.s.i. Siempelkamp press with platen size of 4′ x 8′.

● The advantages of one-piece frame design are becoming more widely recognized every day — particularly for presses of high p.s.i. As the leader in one-piece frame design, G. Siempelkamp & Co. builds into each press the highest degree of rigidity, simplicity and performance. Siempelkamp equipment is built in the world's largest hydraulic press plant by the world's most experienced manufacturer. Other advantages include:

- Solid-drilled platens with ground surfaces for uniform heat distribution.
- All U.S. standard tooling, threads and motors.
- Full erection and maintenance service.
- Tested designs for nearly any size and pressure.

Write Today For Details.

WILCO Machine Works
1301 NORTH HOLLYWOOD
MEMPHIS 8, TENN.
TEL. 4-1188

WILCO

HEYER Sales & Engineering Co.
1004 Washington Bldg. - Tacoma 2, Wash.
Tel. Tacoma BR 1605 - Seattle, LOgan 0921

MATTISON 303 *Stroke Sander*

Provides:

INCREASED PRODUCTION – BETTER QUALITY

for

UNITED STATES PLYWOOD CORPORATION
Seattle, Washington

What the Mattison 303 Automatic Stroke Sander is doing for United States Plywood Corporation in their Seattle soft wood plywood plant is an example of what this machine is doing for a good many others.

On the 303 the hydraulic system for the operation of the shoe is simple yet positive in action providing smooth operation of sanding shoe the entire length of stroke.

For further information on the 303 let us send you our new free circular.

UNITED STATES PLYWOOD CORPORATION

Manufacturers and Distributors of Wellwood Plywood and Allied Products

Seattle Office - 4301 Thirteenth Avenue West - Seattle 99, Washington

January 22, 1954

Mattison Machine Works
Rockford, Illinois

Attention: Mr. W. C. Hagstrom

Gentlemen:

With reference to your inquiry about our experience with the Mattison #303 Hydraulic Stroke Belt Sander.

In the latter part of 1951, we installed a 10' Mattison #303 Double Belt Hydraulic Stroke Sander for sanding flush doors and hardwood faced panels. Several months ago we installed a second machine of the identical type.

We are particularly pleased with the absence of sniped panels due to the absolute accuracy of the hydraulic control mechanism on the sanding pad, which eliminates any possibility of overrun.

Our experience has been that we get increased production and a very high quality of sanding from the Mattison #303 Hydraulic Stroke Sander.

Yours very truly,

UNITED STATES PLYWOOD CORPORATION
(Wash.)

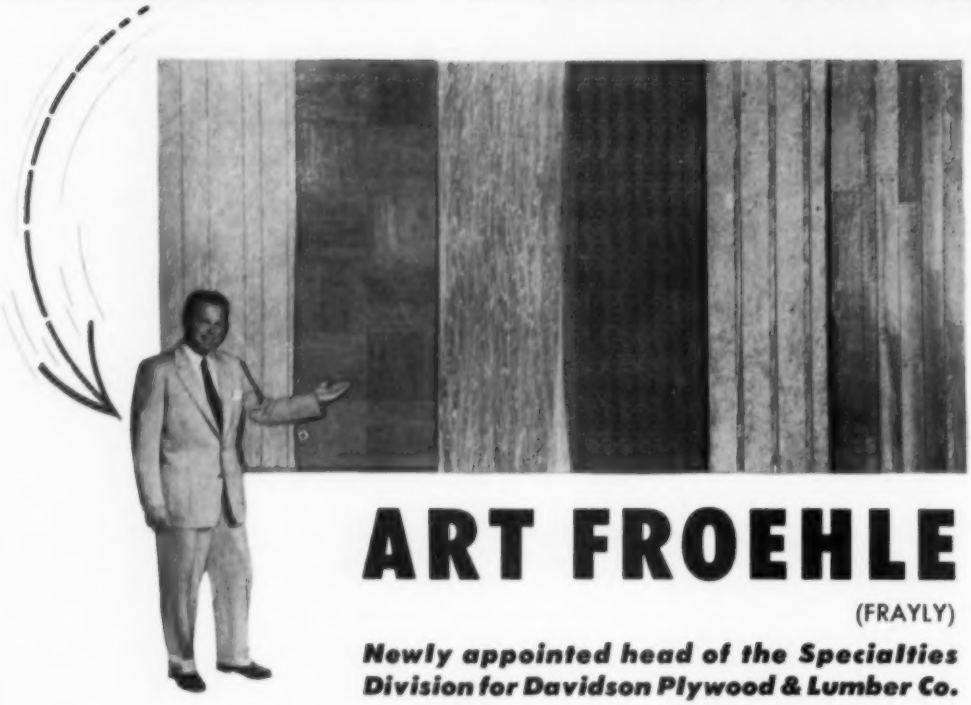
Keith Gunderson

Keith J. Gunderson
Plant Manager

MATTISON MACHINE WORKS
ROCKFORD • ILLINOIS

"YOU'RE INVITED! We will have in operation at the Grand Rapids Machinery Show May 5-6-7 a MATTISON 276 Electric Moulder, a MATTISON 202 Fast Feed Ripper, a MATTISON Automatic Shaping Lathe, and a MATTISON 303 Stroke Sander. Attend the show and FPRS meeting. See these machines operate!

HERE IS YOUR MAN!



ART FROEHLE

(FRAYLY)

Newly appointed head of the Specialties Division for Davidson Plywood & Lumber Co.

Art will be visiting you soon on his nation-wide tour . . . ready, willing and able to help you stimulate sales, and profits from those dramatic, versatile Davidson Plywood specialties.

ETCH-*Wood* • ETCH-*Wall*
PARQ-*Wall* • RANDOM-*Wall*
SKETCH-*Wood* • SHAN-TONG
PLYSIDE • DACO DOORS
EXOTIC IMPORTED WOODS

Dependable Products from

DAVIDSON PLYWOOD & LUMBER CO.

3136 E. Washington Blvd., Los Angeles 23, Calif. • Teletype LA 642

SAN FRANCISCO SALT LAKE CITY SAN DIEGO

Yates-American

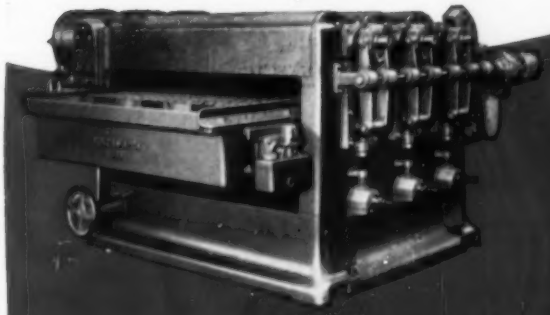
BELOIT, WISCONSIN

BRANCH OFFICES: CHICAGO, ILLINOIS, HIGH POINT, NORTH CAROLINA, MEMPHIS, TENNESSEE, PORTLAND, OREGON.

SINCE 1883...

Yes, the first machine to be built at Yates-American was a drum sander! Since 1883, year after year, through special research and engineering skill Yates-American has continuously developed this quality line of sanders. Our current models are the finest ever . . . a complete line to meet *all* your sanding requirements. Look to Yates-American for all your sander equipment . . .

the One Source that can supply All your Sander Needs!

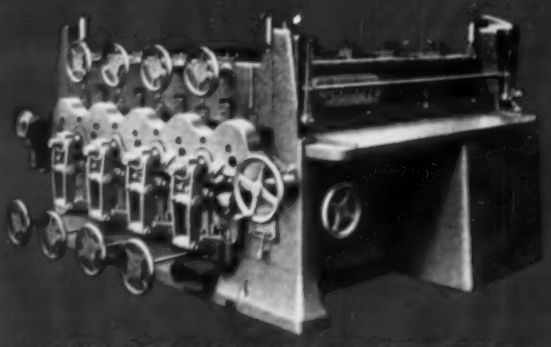


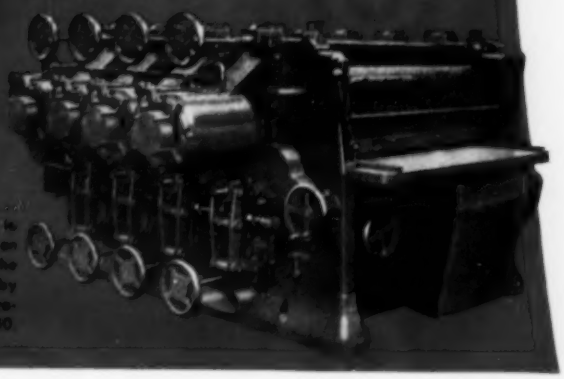
ENDLESS BED SANDERS
2, 3, and 4 drum

The S-333, 3 Drum Endless Bed Sander illustrated features centralized controls and vari-drive feed to permit close coordination with stock flow and other operations. Provides production sanding, accuracy, excellent finish. Endless Bed Sanders also available in 2 Drum Model S-332 and 4 Drum Model S-334.

SINGLE DECK, ROLL FEED SANDERS
3 and 4 drum

Built for heavy, continuous service with rugged construction throughout to assure a rigid mounting for working parts. Variable drive permits selecting feed rate to provide desired finish and to maintain correct speed to match flow of work on other machines in your production line. Controls are readily accessible, adjustments speedily made. Illustrated is the Single Deck Roll Feed 4 Drum Sander, Model S-400. Also available in 3 Drum Model S-300.





DOUBLE DECK ROLL FEED SANDERS • 6 and 8 drum

Here's the YA Double Deck 8 Drum Roll Feed Sander Model S-800 . . . a heavy duty sander that's extra sturdy in construction, extra easy to operate. Bottom platens are divided and supported in center on heavy grits to insure rigidity and flawless accuracy of finish as the work. Minute vertical adjustment of individual drums is controlled by accurate wedges and hand wheels. Vari-drive permits maximum production in relation to finish. Also available in 6 Drum, Model S-600.

Plywood

★Latest-Roster of U. S. Western and Southern & British Columbia Plywood & Veneer Plants

Box Score – Number of Western Plants in 1955

	Plywood	Veneer
Alaska	1	..
California	21	13
Idaho	1	2
Montana	1	..
Oregon	48	31
Washington	38	14
Total, W.U.S.	110	60
B. C.	10	4

Alaska

JUNEAU—Alaska Plywood Corp., plywood.

California

ANDERSON—Kalpine Plywood Co., plywood.
Shasta Plywood Division, U. S. Plywood Corp., plywood.
ARCATA—Arcata Plywood Corp., plywood.
California Barrel Co., Inc., veneer.
Durable Plywood Co., core stock.
Humboldt Plywood Corp., plywood.
CALPELLA—Durable Plywood Co., plywood.
CLOVERDALE—Sonoma Plywood Co., veneer.
CRESCENT CITY—Cal-Ore Veneer Inc., veneer.
Crescent Plywood Co., plywood.
Lund Plywood & Mfg. Co., plywood.
Pacific Veneers, Inc., veneer.
Paragon Plywood Corp., plywood.
Standard Veneer & Timber Co., sheathing.
West Coast Veneer Co., veneer.
EUREKA—M&M Wood Working Co., plywood.
Mutual Plywood Corp., plywood.
FLORIN—Pine Veneer Cover Co., veneer.
FORTUNA—Fortuna Veneer Co., veneer.
GEORGETOWN—El Dorado Veneer Products Co., veneer.
HAPPY CAMP—Yreka Veneer Co., veneer.
HONEYDEW—Vanworth Lumber & Veneer Co., plywood.
KLAMATH—Simpson Logging Co., veneer.
LEGGETT (Mendocino Co.)—The Pacific Coast Co., veneer.
LOS ANGELES—Western Pacific Plywood Corp., plywood.
OAKLAND—Albrite Mfg. Co., plywood.
REDDING—Redding Veneer & Box Co., Inc., veneer.
SAN ANDREAS—Calaveras Forest Products Corp., plywood.
SANTA CLARA—Tri-State Plywood Co., plywood.
SONOMA—California Pacific Plywoods, Inc., plywood.
Sonoma Plywood Co., plywood.
SOUTHGATE—General Veneer Mfg. Co., plywood.
TUOLUMNE—Veneer Shook Mill, veneer.
WEED—Long-Bell Lumber Co., plywood.
WILLITS—Industrial Plywood Corp., plywood.

Idaho

LEWISTON—Potlatch Forests, Inc., plywood (pine).
POST FALLS—Idaho Veneer Co., veneer.
WEISER—Produce Containers, Inc., veneer.

Montana

POLSON—Polson Plywood Co., veneer.

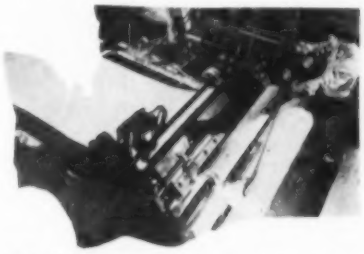
Oregon

ALBANY—Albany Veneer, Inc., core stock.
Edwards Bros. Const., Co., veneer.
Hub City Plywood Corp., veneer.
Linn Plywood Corp., plywood.
M&M Wood Working Co., plywood.
ASTORIA—Astoria Plywood Co., plywood.
Uptegrove Lumber Co., plywood.
AUMSVILLE—Willamette Builders Supply Co., plywood.
BANDON—Bandon Veneer & Plywood Assoc., veneer.
BROOKINGS—Brookings Plywood Corp., plywood.
Hedberg Lumber Co., veneer.
COALCA (P. O. Oregon City)—Doernbecker Mfg. Co., veneer.
COOS BAY—Evans Products Co., plywood.
Spruce Veneer Products Co., veneer.
COQUILLE—Coos Bay Lumber Co., plywood.
Coquille Plywood, Inc., plywood.
CORVALLIS—Corvallis Plywood Corp., plywood.
Peak Plywood Corp., veneer.
Plywood Products Corp., sheathing (Camp Adair).
COTTAGE GROVE—W. A. Woodard Lumber Co., plywood.
CRESWELL—Holt Lumber Co., veneer.
Milwaukie Plywood & Door Coop., veneer.
CULP CREEK—Bohemia Lumber Co., Inc., veneer.
Cottage Grove Plywood Co., veneer.
CURTIN—Forrest Veneer Co., veneer.
DILLARD—Pacific Plywood Co., plywood.
Perkins Veneer Co., veneer.
Roseburg Lumber Co., plywood.
ELKTON—Snellstrom Lumber Co., veneer.
EUGENE—Associated Plywood Co., plywood.
Campbell & McLean, Inc., plywood.
Giustina Veneer Co., veneer.
Lane Plywood Co., plywood.
Lane Veneer Co., veneer.
Snellstrom Lumber Co., plywood.
Zip-O-Log Mills, veneer.
GARDINER—Long-Bell Lumber Co., plywood.
GARIBALDI—Oregon-Washington Plywood Co., plywood.
GLENDALE—Multnomah Plywood Corp., veneer.
GOLD BEACH—Campbell & McLean, Inc., veneer.
GRANTS PASS—Grants Pass Plywood, Inc., plywood.
Southern Oregon Plywood, Inc., plywood.
GRESHAM—Olympic Mfg. Co., veneer.
Rotary Cut Box Co., veneer.
IDANHA—M&M Wood Working Co., veneer.
INDEPENDENCE—National Plywood Co., plywood.
JUNCTION CITY—Valley Plywood Co., plywood.
KLAMATH FALLS—Kalpine Plywood Co., plywood.
LEBANON—Cascades Plywood Corp., plywood.
Western Veneer & Plywood Co., veneer.
LYONS—M&M Wood Working Co., veneer, (plywood in '54).
MAPLETON—United States Plywood Corp., plywood.
MEDFORD—Veneer Products Co., plywood.
MERLIN—Rogue Veneer Co., veneer.
MILWAUKIE—Milwaukie Box & Veneer Co., veneer.
Milwaukie Plywood & Door, Inc., plywood.
MYRTLE CREEK—Umpqua Plywood Corp., veneer.
NORTH BEND—Menasha Plywood Corp., plywood.
NORWAY—Myrtle Point Veneer Co., veneer.
OAKLAND—The Martin Bros. Box Co., plywood.
ODELL—Hood River Box & Veneer Co., veneer.
PHILOMATH—Benton Timber Products Corp., veneer.
PORTLAND—Coast Veneer Co., veneer.
B. P. John Furniture Corp., plywood.
Linnton Plywood Association, plywood.
M&M Wood Working Co., plywood.
Multnomah Plywood Corp., plywood.
PORT ORFORD—Western States Plywood Corp., plywood.
RIDDLE—Harbor Plywood Corp. of Ore., veneer.
ROSEBURG—Evans Products Co., plywood.
Perkins Veneer Co., veneer.
Umpqua Plywood Corp., plywood.
SPRINGFIELD—Springfield Plywood Corp., plywood.
Vancouver Plywood Co., veneer.
Weyerhaeuser Timber Co., plywood.
SUTHERLIN—Nordic Plywood, Inc., plywood.
SWEET HOME—Oregon Plywood Corp., plywood.
TILLAMOOK—Aberdeen Plywood Corp., veneer.
Diamond Lumber Co., plywood.
TOLEDO—C. D. Johnson Lumber Corp., sheathing.
WESTFIR—Edward Hines Lumber Co., plywood.
WHITE CITY (near Medford)—Medford Veneer & Plywood Corp., plywood.
Fir-Ply, Inc., plywood (under construction).
WILLAMINA—Associated Plywood Mills, Inc., plywood.

Washington

ABERDEEN—Aberdeen Plywood Corp., plywood.
Harbor Plywood Corp., plywood.
West Coast Plywood Co., plywood.
ANACORTES—Anacortes Veneer, Inc., plywood.
ARLINGTON — Pilchuk & Plywood Corp., sheathing.
BEAVER—National Plywood Co. of Washington, plywood.
BELLINGHAM—Georgia-Pacific Plywood Co., plywood.
Mt. Baker Plywood, Inc., plywood.
Pacific Veneer & Plywood Corp., plywood.
CENTRALIA—Centralia Plywood, Inc., plywood.
CONCRETE—Skagit Veneer & Lumber Corp., veneer.
DARRINGTON—Three Rivers Plywood & Timber Co., veneer.
ELMA—Elma Plywood Corp., sheathing.
Jordon-Ladley Plywood Products Co., veneer.
ENUMCLAW—Cascade Machine Works, veneer.
EVERETT—Everett Plywood & Door Corp., plywood.
Walton Plywood Co., plywood.

BRADLEY PLYWOOD CORP. — Savannah, Ga.
CALYPSO VENEER CO., INC. — Calypso, N. C.
COMMONWEALTH PLYWOOD CO., LTD. —Ste. Therese, P. Q., Canada.
HOQUIAM—Grays Harbor Veneer Corp., veneer.
Woodlawn Plywood Co., Inc., plywood.



KALAMA—Columbia Veneer Co., plywood.
KENMORE—Farwest Plywood Co., veneer.
KOSMOS—U. S. Plywood Corp., veneer.
LACEY—Lacey Plywood Co., Inc., plywood.
LEAVENWORTH—Construction Products Industries, veneer.
LONGVIEW—Long-Bell Lumber Co., plywood.
Weyerhaeuser Timber Co., plywood.
MC CLEARY—Simpson Logging Co., plywood.
OLYMPIA—Georgia-Pacific Plywood Co., plywood.
Gordon-Ladley Plywood Products Co., plywood.
Hardel Mutual Plywood Corp., plywood.
Hy-Grade Hardwood Veneers, Inc., plywood.
St. Paul & Tacoma Lumber Co., plywood.
OROVILLE—Okanogan Valley Veneer Co., veneer.
PORT ANGELES—Peninsula Plywood Corp., plywood.
PUYALLUP—Brew Manufacturing Co., veneer.
Hendricks Veneer Co., veneer.
Spruce Veneer Package Corp., veneer.
RANDLE—Cowlitz Veneer Co., veneer.
RAYMOND—Harbor Veneer Plant of Pacific States Box & Basket Co., veneer.
RENTON—Seattle Plywood Corp., veneer.
SEATTLE—Elliott Bay Mill Co., plywood.
U. S. Plywood Corp., plywood.
SHELTON—Simpson Logging Co., plywood.
STEVENSON—Stevenson Plywood Corp., plywood.
TACOMA—Buffelen Mfg. Co., plywood.
Engineered Plywood Prod. Co., Inc., plywood.
Donald W. Lyle, Inc., plywood.
North Pacific Plywood, Inc., plywood.
Northwest Door Co., plywood.
Puget Sound Plywood, Inc., plywood.
Rainier Plywood Co., plywood.
Resinweld Plywood, Inc., plywood.
VANCOUVER—Vancouver Plywood Co., plywood.

British Columbia

CRESTON—Creston Sawmills, Ltd., veneer.
FRASER MILLS—Canadian Western Lumber Co., plywood.
KELOWNA—S. M. Simpson, Ltd., veneer.
NEW WESTMINSTER—Mount Baker Plywood Co., veneer.
Pacific Veneer Div., Can. for Prod., Ltd., plywood.
PORT ALBERNI—MacMillan & Bloedel, Ltd., Alberni Div., plywood.
QUESNEL—Western Plywood (Cariboo) Ltd., plywood.
VANCOUVER—Beaty Laminated, plywood.
Evans Products, Ltd., plywood.
MacMillan & Bloedel, Ltd., Vancouver Div., plywood.
J. R. Murray, Ltd., plywood.
Western Plywood Co., Ltd., plywood.
VERNON—Wood Products Co-operative Ass'n, veneer.
VICTORIA—B. C. Forest Products, Ltd., Victoria Div., plywood.
Sooke Lake Lumber, Ltd., veneer.
YOUBOU—B. C. Forest Products, Ltd., Cowichan Div., veneer.

Hardwood Plywood

(THE FOLLOWING MEMBERS of the Hardwood Plywood Institute account for the majority of hardwood plywood production.)

ALGOMA PLYWOOD & VENEER CO—Algoma, Wis.
(Subsidiary of U. S. Plywood Corp., Home office: 55 W. 44th St., New York City.)
ATLAS PLYWOOD CORP.—20 Providence St., Boston, Mass.
(Plants: Newport, Vt.; Greenville, Me.; Goldsboro, N. C.; Gladstone, Mich.)
DARLINGTON VENEER CO., INC.—Darlington, S. C.
F. EGGERS PLYWOOD & VENEER CO.—Two Rivers, Wis.
FERNWOOD INDUSTRIES—Fernwood, Miss.
GEORGIA-PACIFIC PLYWOOD CO. — P. O. Box 1350, Savannah, Ga.
INTERNATIONAL FIBRE BOARD AND PLYWOOD SALES, LTD.—Gatineau, P. Q., Canada.
JASPER WOOD PRODUCTS CO., INC.—Jasper, Ind.
LARSON PLYWOOD CO.—Sheboygan, Wis.
LINWOD, INC.—Gillett, Wis.
MCKNIGHT VENEERS, INC. — P. O. Box 415, Helena, Ark.
MEMPHIS PLYWOOD CORP. — Memphis, Tenn.
NICKEY BROTHERS, INC.—2700 Summer Avenue, Memphis, Tenn.
NORTHWESTERN VENEER & PLYWOOD CORP.—Gladstone, Mich.
(Subsidiary of Atlas Plywood Corp., Home Office: 20 Providence St., Boston, Mass.)
PERRY COUNTY PLYWOOD CORP.—Beaumont, Miss.
PICAYUNE VENEER & PLYWOOD CORP.—Picayune, Miss.
ALLEN QUIMBY VENEER CO.—Bingham, Me.
RODDIS PLYWOOD CORP.—Marshfield, Wis.
SETTER BROTHERS, INC.—Cattaraugus, N. Y.
SOUTHERN LAMINATING CO. — 1601 Clancy (Box 115), Memphis, Tenn.
SOUTHERN PLYWOODS, INC.—P. O. Box 448, Greenville, Fla.
SPLICEDWOOD CORP.—Mellen, Wis.
UNDERWOOD VENEER CO., DIV. OF CONNOR LUMBER & LAND CO.—Wausau, Wis.
UNITED STATES PLYWOOD CORP.—P. O. Box 524, Orangeburg, S. C.
VALDOSTA PLYWOODS, INC.—P. O. Box 136, Valdosta, Ga.
WEBER VENEER & PLYWOOD CO.—Shawano, Wis.
WINNSBORO PLYWOOD CO. — Winnsboro, S. C.

Plywood Photos

The plywood photos on these pages representing the three Pacific coast states are as follows: Ore. and Calif.: Edward Hines Lumber Co., Westfir, Ore.; Wash.: Oregon-Washington Plywood Co., Garibaldi, Ore.

Plywood

One of the Brightest New Specialties Is Texture One-Eleven

ONE OF THE NEWEST plywood specialties, introduced just a little over one year ago, is Texture 1-11. It has already become more popular in the siding market than manufacturers had expected initially.

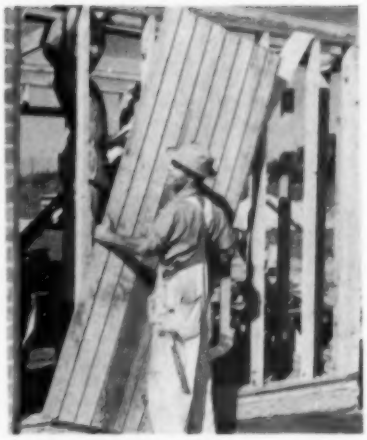
Beginning with only a trickle of production in early 1954, the new vertically shadow-lined panel is now being sold at an annual estimated rate of 40 million sq. feet.

Early in the year, national FHA agreed to acceptance of the material in homes financed by FHA loans. Acceptance by regional offices grew slowly at first and then with a rush. Most of the regional offices have accepted and agreed to use the material directly over studs as combined sheathing and siding. In most instances the VA has followed suit.

MANUFACTURERS' individual sales efforts backed by an aggressive industry promotion paid off with consistently growing sales, as evidenced here in a recap of the growth in **annual rate of sales** through 1954:

January	4.6	million sq. ft.
February	8.9	" " "
March	11.7	" " "
April	8.2	" " "
May	8.6	" " "
June	15.7	" " "
July	5.8	" " "
August	21.0	" " "
September	38.0	" " "
October	30.6	" " "
November	26.9	" " "
December	33.5	" " "
January (1955)	40.0	(Estimated)

Texture One-Eleven made its first initial headway in the field of prefabrication which now constitutes the biggest volume market. A recent survey by House and Home indicates that about 50 per cent of prefabricators are using the new panels somewhere in most of their models. Also, architectural use in costum-built higher price homes has been widely publicized.



HERE IS APPLICATION of a panel of Texture 1-11 to one of the homes mass-produced by Allen Brockbank, one of Salt Lake City's largest builders and big user of T 1-11 siding.

A NEW FIELD for Texture 1-11 that is just starting to account for a moderate amount of square footage is commercial construction, such as in the modern shop shown above.

8300-TON R. D. WOOD *hydraulic press*

now in full-scale production of dry process hardboard for a large west coast manufacturer. The press has 8 openings, and is expandable to 15. Steam platens measure 54" x 200" with a steam pressure of 750 psig. In this press, as in every R. D. Wood product, *quality* is the prime consideration.

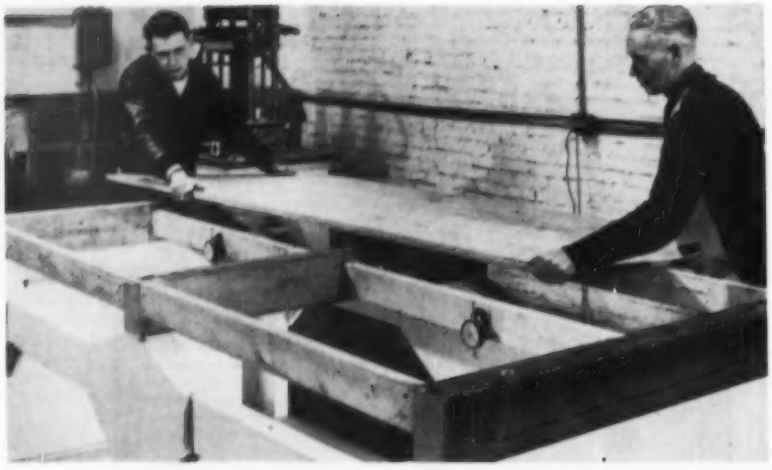
Write for information or engineering counsel on R. D. Wood hydraulic presses for hardboard manufacture.

R. D. WOOD COMPANY

PUBLIC LEDGER BUILDING • PHILADELPHIA 5, PENNSYLVANIA

Representatives in Principal Cities

MAKERS OF HYDRAULIC PRESSES AND VALVES · FIRE HYDRANTS · CAST-IRON PIPE · GATE VALVES · GAS PRODUCERS · ACCUMULATORS



Continuous field tests

CONTRIBUTES to a fund of knowledge that is translated into new and broader plywood uses. Above: Testing for flexural strength.

Plus laboratory research

SUCH AS inspection of exterior plywood samples exposed here in the field since 1939 constitute one phase of plywood research.

Industry Steps Up Research; Many New Projects Begun in '54

IT'S A LONG WAY from an engineer's strain gauge in Tacoma, Wash., to a customer's signature on a plywood invoice. Nevertheless, basic research on fir plywood's action under all kinds of stress is one of the big contributing factors in many volume plywood sales.

Although industry promotion has been backed by research and testing for more than 15 years, the space and scope of the program has increased substantially in recent years, particularly in the past 12 months.

Among the most significant projects underway at the industry's Tacoma laboratory is a behind-closed-doors study of face checking launched by the manufacturers two years ago. It is part of the over-all research and testing program directed by N. S. Perkins, Douglas Fir Plywood Association technical director.

THE WORK ON CHECKING has been done by Thomas Baty. According to Perkins, Baty has already made an important contribution to knowledge of this phenomenon in rotary cut fir plywood and his work gives promise of a substantial improvement in the durability and quality of higher appearance grade panels in the future.

Baty will announce results of the project this summer before the Forest Products Research Society analyzing the progress already made in this direction. Among other things he has devised an improved practical method for accurate measurement of all degrees of checking.

STARTING FROM SCRATCH in a field in which little is known, Baty faced such complex questions as the varying degrees of checking in coarse and fine-grained veneer, the effect of moisture content of the wood at various stages of manufacture on subsequent resistance to checking and the best moment for application of water repellents.

At the same time, the technical staff of the association has accelerated research and testing in the field of white pocket or "white speck" when it appears in fir plywood. A determined effort is underway to find some method of utilizing this lower grade material without jeopardizing the reputation for strength and quality based on DFPA grade trademarks.

Industry has already established that white speck seriously impairs panel strength and durability of interior protein glues. On the other hand, the research indicates that it may be possible to set up a special grade limited to interior uses where it would not be subject to moisture and where reduced strength would be acceptable. Many questions, however, remain unanswered in early 1955.

ALSO COMPLETED during the past year were 15 additional tests on full-scale plywood diaphragms. This is a form of construction in which a horizontal plywood surface lends strength to the end and side walls of a building. The tests have established that fir plywood provides a more rigid diaphragm whose action can be accurately predicted under stress. Structural values for plywood under these conditions have been accepted by the Uniform Building Code opening much broader markets for the panels in warehouse, supermarket, school and industrial construction.

The pioneering research in this field has been directed by David Countryman, association civil engineer. Countryman's tests on the "panel and girder" action of a plywood panel functioning as a continuous beam over its supports have spurred sales.

For example, the test data developed by Countryman served as the basis for FHA acceptance of a new method of floor construction with heavy panels on widely spaced supports. One builder saves $500 a house with this system and DFPA reports many other builders ready to follow suit.

The data is also serving as the basis for specification of ¾" structural fir plywood for roof decking over 4-foot support spacing, an eco-

(Continued on page 126)

★A Late Plywood Report

JUST BEFORE this Forest Industries Yearbook Number of THE LUMBERMAN went to press, there were many visible signs that the plywood boom is spreading and mushrooming perhaps even on a greater scale than has been previously imagined. Many of these signs have appeared just since Jan. 1, 1955.

Here are some of the indications that point to 1955 as one of the busiest years yet:

• One industry source states that there are over 30 dryers currently in various stages of delivery, from being "on order" to actual installation. Veneer from the sappier smaller logs now in general use require more drying time, thus requiring more drying capacity for a similar amount of old-growth veneer.

• Many green veneer mills have sprung up in just the last few months, some independents and some mills connected with existing plywood companies.

• There are also veneer plans under construction or consideration that will feed dry sheets into plywood lay-up plants, e. g., Benton Timber Products Corp., Philomath, Ore.

• A newly announced sheathing mill at McMinnville, Ore., Yamhill Plywood Co., will subsist on purchased veneer.

• Machinery houses in the fir plywood region report great activity in the design, construction and ordering of new and more efficient plywood machinery, largely equipment that will take the lower grade logs and convert them to core stock.

• A large plywood wholesaler who has been buying without a firm tie-up with any particular source of plywood reports inability to deliver all of their 60-day orders on schedule.

• A plywood cooperative that recently had to raise a very large sum of money in a reorganization program was not only 100% subscribed but some cash offers for shares had to be returned.

• The nationwide building boom, which seems to be going full steam with no particular end in sight, is consuming mountains of sheathing grade for structural.

• Specialty grades, notably Texture 1-11 have become phenomenally successful, even to the point where many mills which never produced more than a few principal grades of plywood are now either in specialty production in considerable volume or thinking seriously of going into it this year or next. Some mills are producing nearly 100% specialty.

• Promotional campaigns are going ahead at a rapid pace. Not only is the industry-supported Douglas Fir Plywood Association extremely active in promotion, but the large producers and distributors, such as United States Plywood Corp., Georgia-Pacific Plywood Co., and M & M Wood Working Co., have undertaken well-planned programs of their own, notably advertising and promotion aimed at the do-it-yourself market which is growing bigger. For instance, U. S. Plywood's double-page ad in Life magazine the first of March. This company's monthly sales are running around $10,000,000.

• Flexibility is an outstanding feature of new plants. For instance, a company will install a hot-press frame with cold press platens. Later if and when the operator wants to go into exterior grade panels, he can convert his press to a hot one in the existing frame.

(Continued on page 126)

PLYWOOD PANELS from DOUGLAS FIR

Exterior and Interior
Manufactured with pride and care in our worker-owned plant.

Member:
Douglas Fir Plywood Association

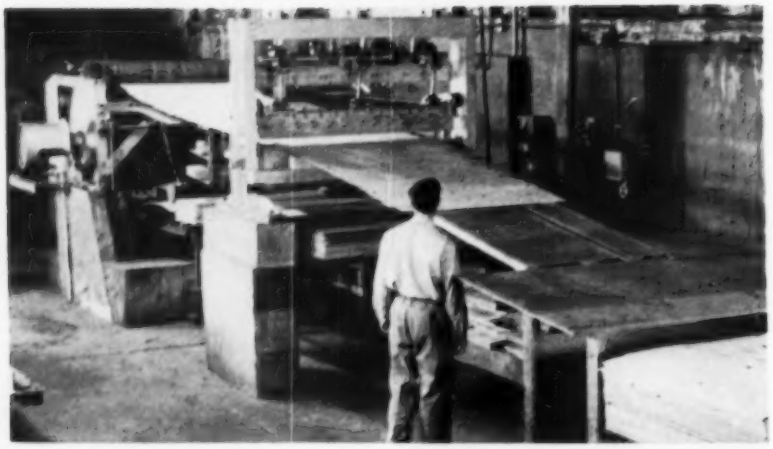
Visitors are cordially invited to visit our modern plywood manufacturing plant in Portland—shown in this aerial view at left.

Multnomah
PLYWOOD CORPORATION
1500 S. W. HARBOR DRIVE
PORTLAND, OREGON
Phone ATwater 8523

Plywood

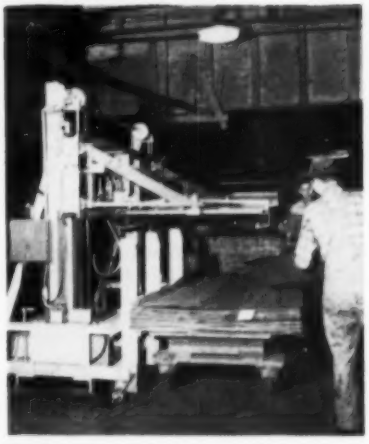
1-Bark-Peel-Clip

OUTFEED END of the Elliott Bay B-P-C unit. As shown here, this self-contained machine produces wide core (100" x 4').



2-Veneer Edge Gluer

NARROW VENEER strips go to Miller edge gluer, where they are joined into wide core stock. This is new system's 2nd unit.



3-Plywood Assembler

THIS IS FINAL machine in newly devised system. It's a wheel-mounted mechanical core layer operating at right angles to glue spreader.

How New Machines Help

produce better plywood with smaller logs, thus stretching peeler supply

INTERPRETERS OF THE FUTURE log supply of the plywood industry have reason to predict a brighter future on the basis of developments in manufacturing plywood taking place at Elliott Bay Mill Co., Seattle, Wash.

These developments, which took place in 1954 and are well beyond the realm of experimentation, revolve around new machinery and new plant preparation methods.

When the Elliott Bay idea takes hold within the industry—or developments of a similar nature occur at other plants—it means (1) the production of better plywood from (2) smaller logs and (3) the introduction of more efficient veneer preparation. The profitable utilization of smaller logs, of course, means the extension of the existing plywood timber supply.

INDUSTRY SPOKESMEN report that the Elliott Bay plan may be the salvation of many of the large existing plants, whose usefulness many have predicted would be hampered because of a growing shortage of peeler logs. However, these spokesmen say that the present big plants may tend, more and more, to become assembly operations. They will be fed veneers from many sources: Douglas fir veneer from scattered green veneer plants; exotic veneers from overseas sources; and hardwood veneers from widespread domestic sources. Some leaders express the view that the coming "new look" in western plywood plants will put them more and more into the production of hardwood plywood.

In any event, the Elliott Bay idea is interesting. It is not necessarily new, but has been tried at the Seattle plant, and at their plants in the Philippine Islands and Myrtle Point, Ore. The idea of plant preparation evolves around three key machines, built in the plywood machines shops.

NUMBER ONE MACHINE is the Elliott Bay B-P-C Unit . . . a combination barker, peeler (lathe) and clipper. This self-contained machine is built to handle small logs, up to three feet in diameter. It barks the log, peels it and clips the veneer—all within a space of eight feet. The logs are barked and peeled on the same spindle. Two separate knives are used. The barker knife comes up when the log is chucked in position. The first few revolutions remove the bark, then the barker knife automatically draws back and the peeler knife takes over.

The machine peels wide core. The quality of the small logs is high enough so that very few narrow pieces of veneer are clipped. The wide core stock emerges from the clipper in sheets 100 inches long x 4 feet wide. The B-P-C Unit handles 4-foot blocks and can produce 15,000 feet (log scale) of wide core stock in 8 hours.

The narrow pieces of veneer are shunted to the Miller Edge Gluer, which is the second machine in this key Elliott Bay group. All narrow pieces are edge glued into wide core.

Thus with plant preparations concentrated on wide core stock, the third and most important manufacturing step is possible. This machine is Elliott Bay's Quality Plywood Assembler (or mechanical core layer). This unit, operating at right angles to the glue spreader, mechanically lays solid, 1-piece core stock (see illustration), not touched by any hands, which causes glue swipes. This machine is mobile-mounted on large wheels and rolled into any conventional glue machine set-up to run wide edge-glued or solid wide core. When random core is used the machine is rolled out and does not dis-

(Continued on page 126)

MARK OF DISTINCTION

Just as the DFPA seal on plywood is the hallmark of quality . . . the name Borden stands for thoroughly reliable industrial adhesives. Now Borden joins in congratulating the Douglas Fir Plywood Industry on its 50th Anniversary . . . and on the outstanding job the industry has done in creating a modern building material of distinction. For Douglas fir is recognized the world over as a monarch of the forest—tall, straight, durable and strong. To match the quality of this magnificent timber, Borden has pledged itself to produce only the finest glues for the Douglas Fir Plywood Industry.

INDUSTRIAL ADHESIVES

THE *Borden* COMPANY
CHEMICAL DIVISION

POLYVINYL . . . CASEIN . . . UREA RESIN . . . PHENOL RESIN . . . RESORCIN RESIN . . . EPOXY RESIN ADHESIVES

Plywood

Industry Steps Up Research

(Continued from page 122)

nomical method of construction in many instances. Thus continuing research helps achieve acceptance of new construction systems, some involving literally acres of plywood.

MOST INTERESTING current test project, perhaps, is the one involving fir plywood for highway signs. Under the direction of Thomas Moran, association chemist, the industry is testing the comparative resistance of fir plywood, overlaid plywood and competitive sign materials to vandalism of all kinds.

The data developed in this project will be used in a major promotion to traffic engineers and other specifiers in this field.

Other research completed during the year includes work on the strength of nailed plywood gusset plates, the design of plywood gusset plates, marine finishes for fir plywood and the durability of panels made with hard grain and soft grain veneer bonded with exterior adhesives.

A Late Plywood Report

(Continued from page 123)

• The largest hot press ever built for the Pacific coast is to be placed in operation at an Oregon plywood mill soon; it is a 25-opening press. Two 24-opening presses were also recently ordered.

• More and more producers are putting their products into attractive paperboard wrappings that not only draw the customer to plywood but also give him a product that is in perfect condition.

• In recent weeks, many plants have announced major expansion or modernization programs.

• The Stanford-Weyerhaeuser report offers the most reliable picture of future plywood demands and seems to justify the plywood industry's optimism. In home building, plywood use is expected to go up about 40% by 1965. This in turn means a big jump in sheathing use. Plywood in non-residential construction should hold its own. By 1975, the Stanford Research report expects softwood plywood production to reach about 7.2 billion, not quite double the 1954 output.

• Because many new plants and expansions will not have their first full year of production until next year, 1956 (assuming no great change in the nation's domestic economic condition) should witness one of the greatest productive phenomena in American industry.

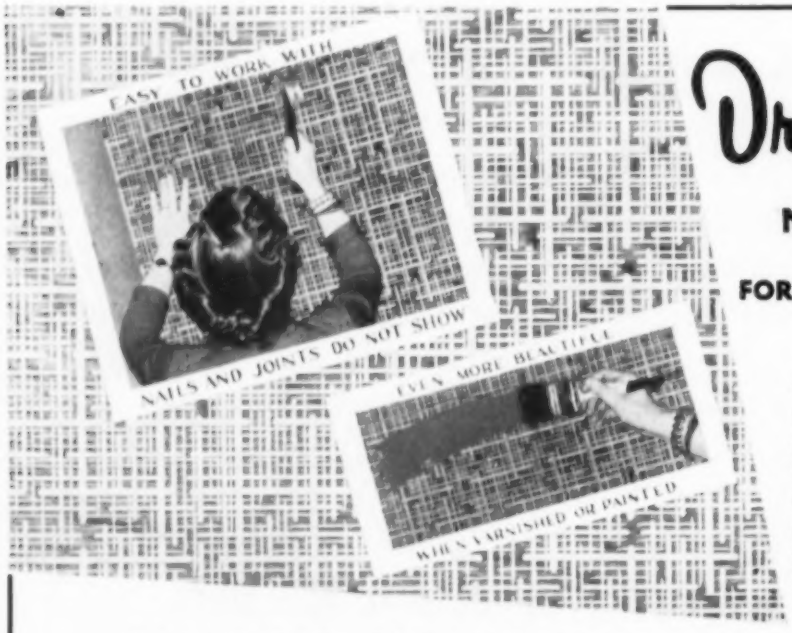
New Plywood Machines Help

(Continued from page 124)

turb any regular glue machine practice.

THIS SYSTEM WAS developed to help solve the much-discussed subject in all mills known as "Quality Control." Advocates of this system state that mills have full control of quality, namely: no glue swipes, no lap core, no open voids, no overhanging core laying on press plates. The system makes possible a saving in wood and glue and eliminates rejects.

All these machines were developed for plywood adaptation by William J. Miller, superintendent of the Elliott Bay Mill Co. and president of Elliott Bay Plywood Machines Co., Seattle, Wash. Alfred C. Johnson supervises machine construction; and Ray Taylor is field service representative of the company.



Dramatic NEW Beauty FOR HOME or OFFICE

Room interiors take on rich new textured effects with this versatile new plywood product! Exclusive new Shan-Tong pattern gives a luxurious 3-dimensional effect more enhancing than costly wallpapers, and it's a permanent installation. Customers find it easy to do-it-themselves, too—nails and joints don't show, and Shan-Tong paints or varnishes beautifully. The cost? Surprisingly reasonable.

Cash in on the Do-It-Yourself boom with this versatile new product. Write for samples and dealer information.

Sierra Lumber, Inc., Box 5163, Eugene, Ore.

SHAN-TONG PLYWOOD

A Researcher Answers: What Are the Important Trends in Plywood?

• As 1954, a record year for softwood plywood, passed into history, the new year of 1955 arrived with bright prospects. After 50 years of up and down and often spectacular production, certain trends are evident. Listed below are some of the more important trends as discussed with THE LUMBERMAN by Harold Evans, executive director, Plywood Research Foundation, Tacoma, Wash., an industry-supported organization conducting basic product and process research.

TECHNICAL ADVANCES in production. Evans foresees many functions in plywood manufacture being engineered to higher efficiency: a better job in less time at a lower cost, such as the example of the new Elliott Bay system pictured here. Despite present mass production, "economic bottlenecks" do exist where panel costs soar due to excessive handling, such as the lay-up section which has undergone little change in several decades. He mentioned the automatic sander feeders (such as the one in use at Columbia Veneer Co., Kalama, Wash., featured in Dec., 1954 THE LUMBERMAN, Page 52) and modernizing peeler block handling and lathe-charging as examples of the "automation trend." Self-feeding dryers are another.

MORE COMPLETE LOG utilization is a major trend, and is in fact the motivating factor behind the trend towards more efficient veneer preparation machinery.

MORE SPECIALTIES. Scarcely a mill nowadays is without a specialty product or department. While specialties constitute a minority percentage of total volume, they are becoming increasingly important dollarwise. Use of foreign woods is becoming popular. Generally they are "premium" items. (See the Plywood Specialties round-up, in this plywood section, devoted to pictures and descriptions of the major specialties on the market today.—Ed.)

MORE SPECIALITIES INDUSTRY-WIDE. Evans cited Texture 1-11 as an example of an identical specialty into production by many scattered mills. He said some mills have devoted 8% of their production to T 1-11. The resin-impregnated overlays, which like T 1-11 are DFPA certified, have grown out of the specialty class and into a regular item.

KEEPING WOOD AS WOOD. Evans believes that the American public wants wood to look like wood. He said there is a definite (and healthy) trend to retain the "natural look" in plywood. He thinks current and future plywood product development will be in line with that public viewpoint. He foresees figuration on interior panels that will eliminate some present finishing difficulties but retain the beauty and warmth of the wood.

GREATER USE OF THICKER GRADES in construction industries is a trend that has had a healthy effect on the softwood plywood industry.

There is "handwriting on the wall" suggesting possible future trends which will help maintain plywood's status in future years. Some of these which Mr. Evans discussed are:

PREFINISHING OF PANELS, such as sealer or primer coats that would cut down additional fuss and handling time of contactors and consumers, and aid dimensional stability.

SECONDARY PLYWOOD MANUFACTURE, where a manufacturer would produce and merchandise plywood in kits and packages instead of as ordinary panels. Some mills have taken the first step, such as providing joints on siding panels and packaged beveled siding. The merchandising efforts will need to be developed along with new ideas in products.

"TAILORED PRODUCTION" for a specific customer's own needs.

MILLS—LEES CAMP AND SPRINGFIELD, ORE.
PLYWOOD DIVISION—TILLAMOOK, ORE.
REMANUFACTURING PLANT
TILLAMOOK, ORE.

DIAMOND LUMBER COMPANY

PHONE CAPITOL 9805

323 PITTOCK BLOCK
PORTLAND 5, OREGON

The Home of

QUALITY

AND

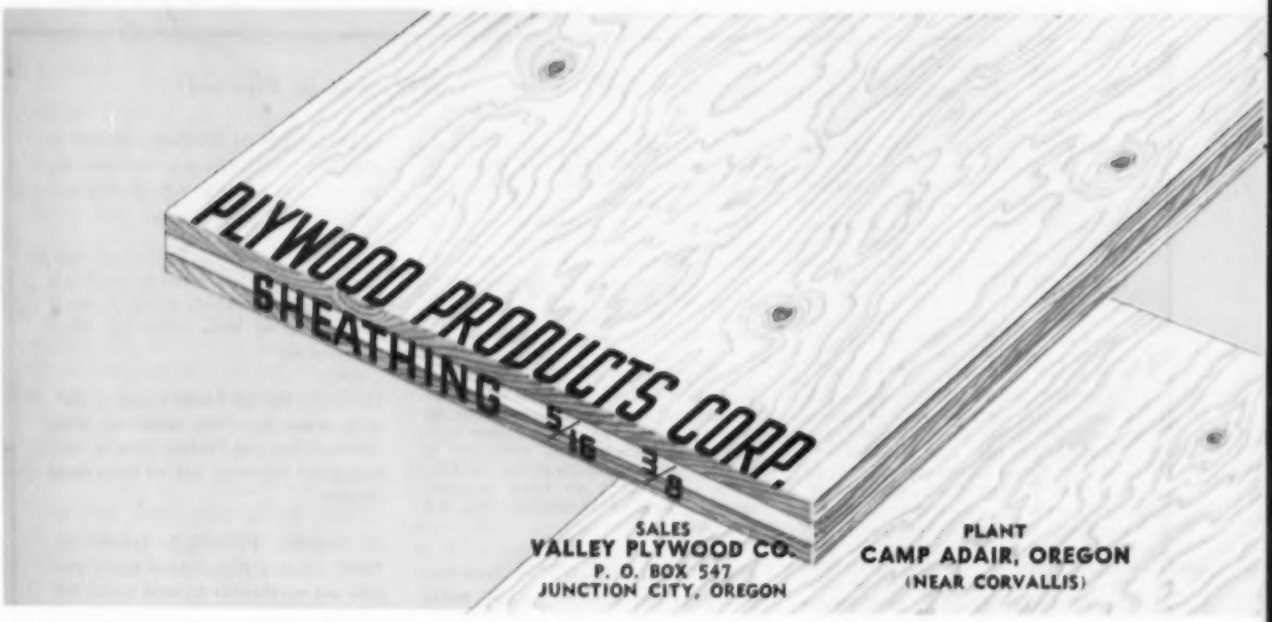
SERVICE!

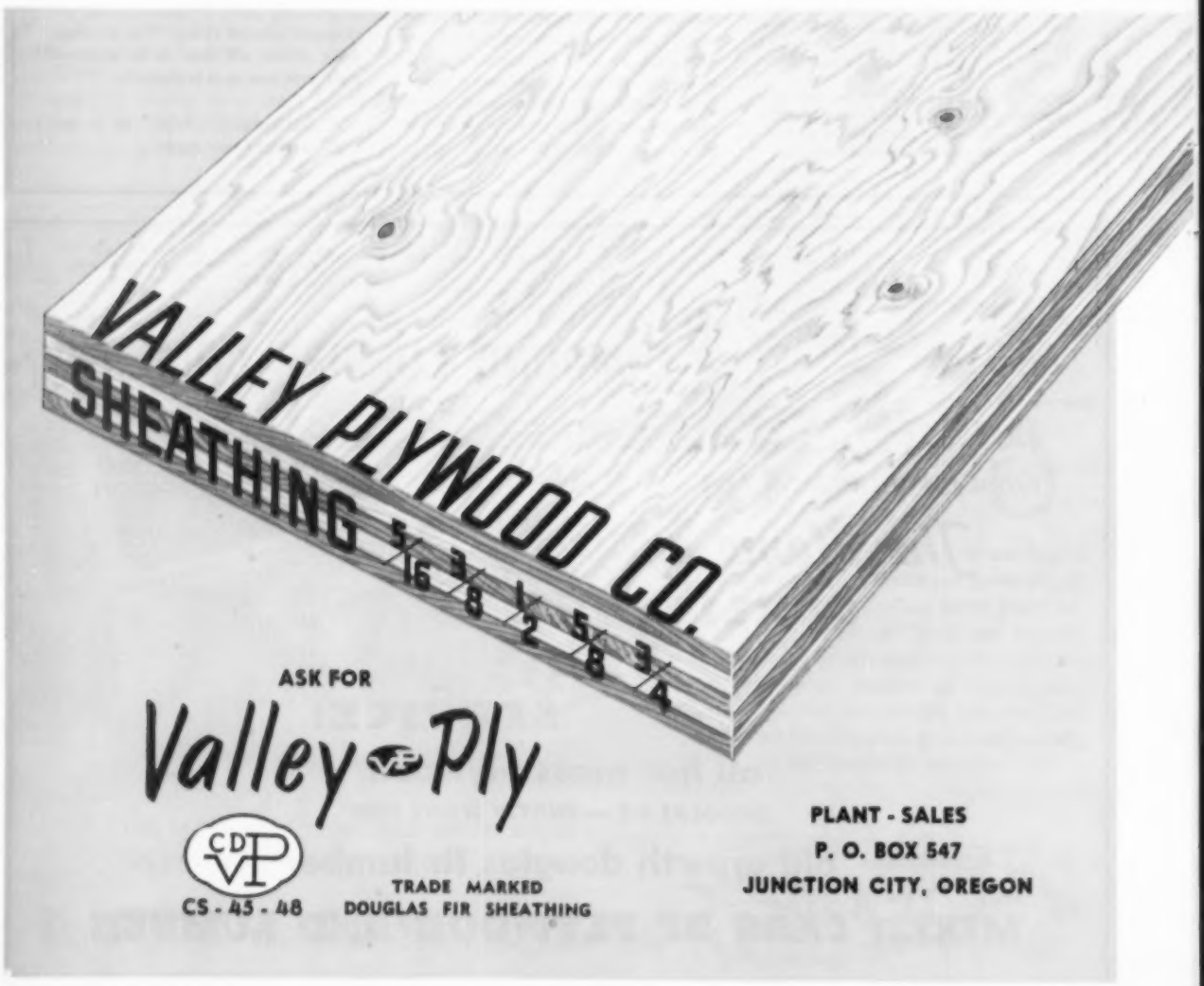
all hot press plywood

DOUGLAS FIR — KNOTTY WHITE PINE

old growth douglas fir lumber

MIXED CARS OF PLYWOOD AND LUMBER


PLYWOOD PRODUCTS CORP.
SHEATHING 5/16 3/8
SALES
VALLEY PLYWOOD CO.
P. O. BOX 547
JUNCTION CITY, OREGON
PLANT
CAMP ADAIR, OREGON
(NEAR CORVALLIS)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CDVP
CS - 45 - 48
TRADE MARKED
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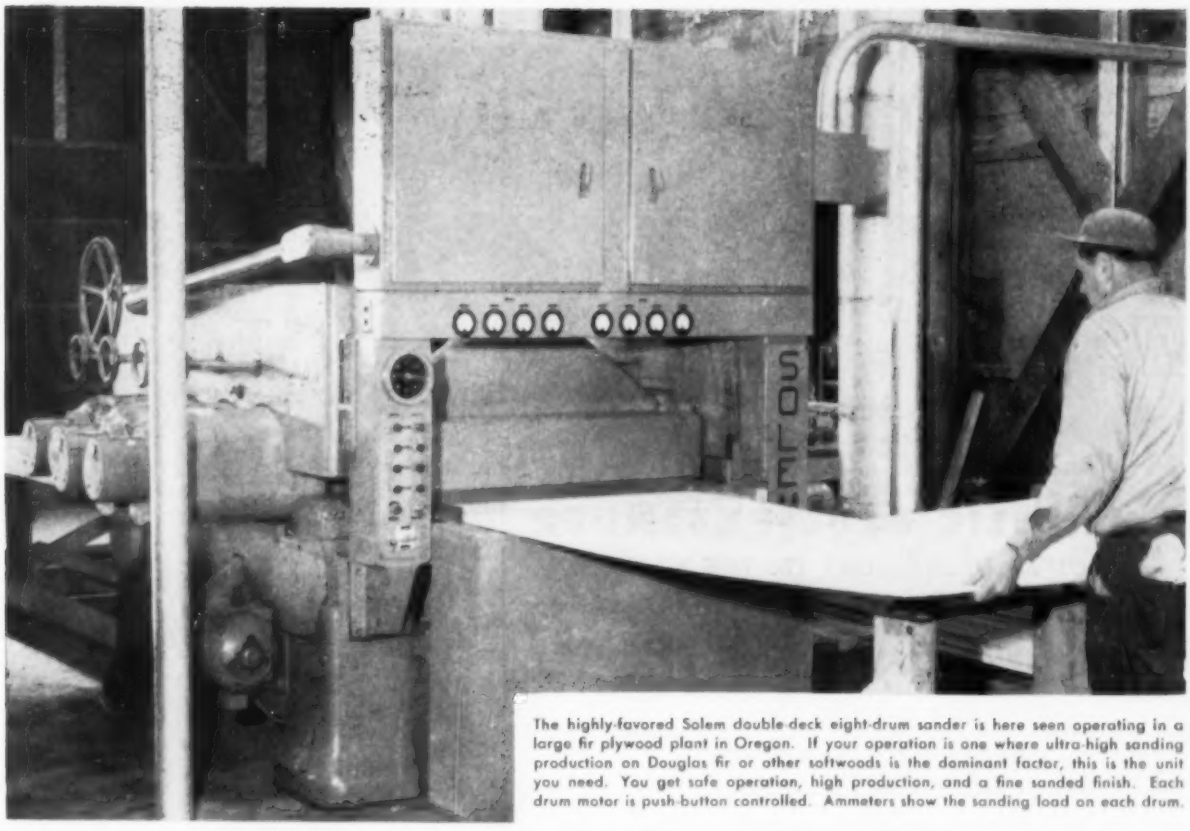
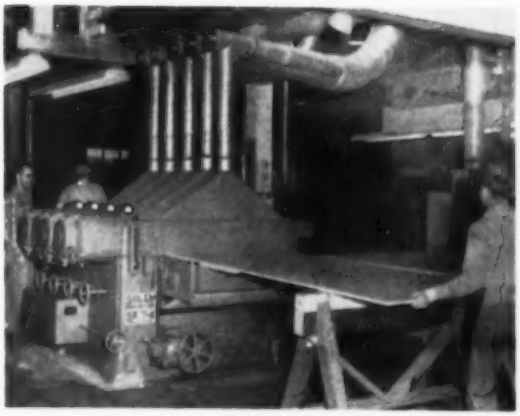
P. O. BOX 547
JUNCTION CITY, OREGON



The highly-favored Solem double-deck eight-drum sander is here seen operating in a large fir plywood plant in Oregon. If your operation is one where ultra-high sanding production on Douglas fir or other softwoods is the dominant factor, this is the unit you need. You get safe operation, high production, and a fine sanded finish. Each drum motor is push-button controlled. Ammeters show the sanding load on each drum.

One and Two Side Solem Sanders Reduce Production Costs in Plywood Plants



The Solem endless-bed four-drum, seen operating in a large plywood plant in Oregon, is here employed for sanding relatively-thin decorative hardwood faces. No other drum sander is so well adapted for this work.

Plywood manufacturers are sold on Solem Sanders for many good reasons. High rate of sanding production obtained, the better sanded finish achieved, and extremely low maintenance cost involved are among the dominant factors. The eight-drum is the prime favorite in double-decks, though Solem also builds a six-drum double for those who desire it. Similarly, the Solem four-drum has the greatest popularity among the endless-bed models, though three-drum and two-drum machines are also available. Any of these endless-bed units may be had in effective widths ranging from 31" to 85" in increments of six inches. Any one of these machines provides the greatest amount of solid sander satisfaction per dollar invested.

Write Today for Further Information

SOLEM MACHINE COMPANY ROCKFORD ILLINOIS

Specify

*SILVACON

PHENOLIC GLUE EXTENDER

AN ACTIVE INGREDIENT IN THE GLUE LINE

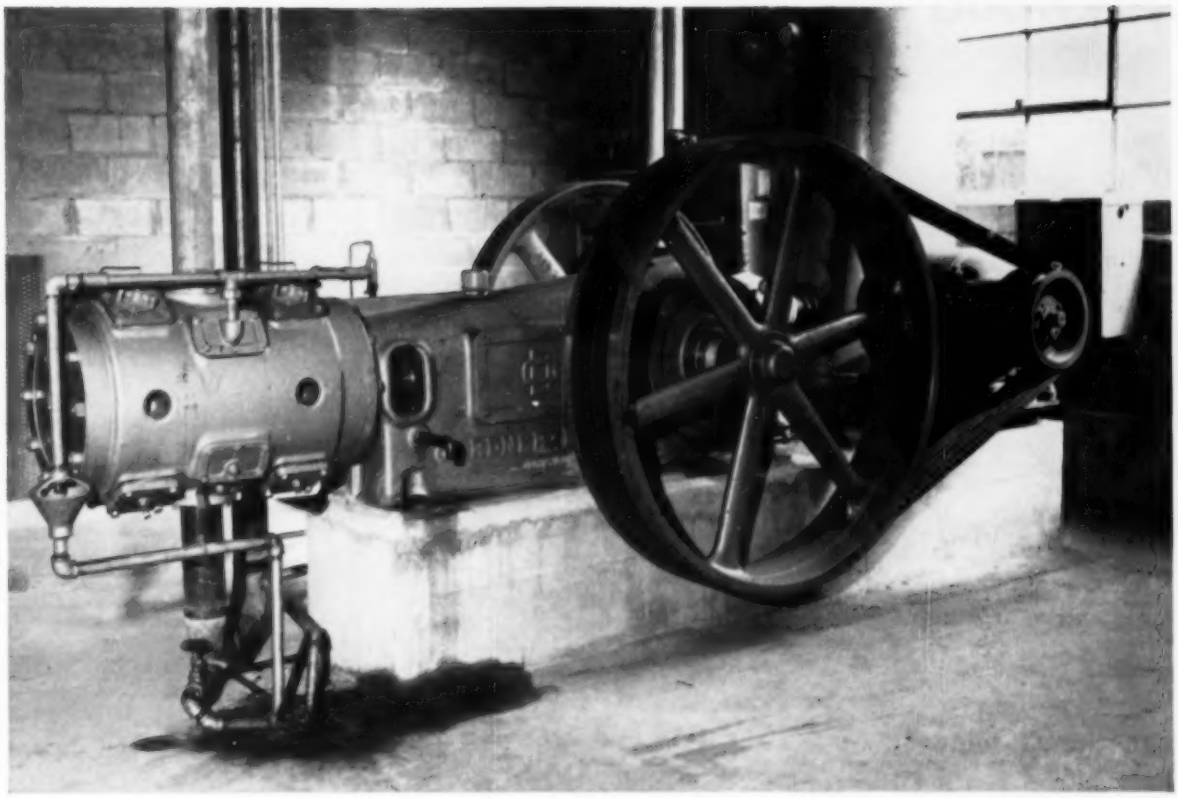
Glues containing Silvacon offer these advantages:

- LONGER ASSEMBLY TIME
- GREATER TOLERANCE FOR HOT OR MOIST STOCK
- BETTER SPREADABILITY
- FEWER "BLOWS"
- HIGHER YEAR AROUND QUALITY

Silvacon's dependable and uniform quality is recognized throughout the plywood industry. Since it becomes an active ingredient in the glue line, it forms a bond of maximum strength. Its better spreadability means lower production cost and increased profits.

*T. M. Reg. U. S. Pat. Off.

*SILVACON
is a product of
WEYERHAEUSER TIMBER COMPANY
For full information write Special Products Division, Tacoma 1, Wash.

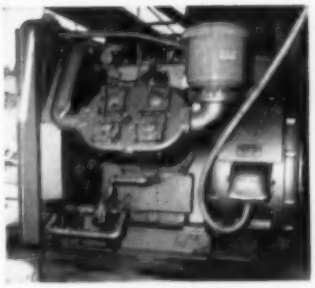


Model RX — 89 to 1292 c.f.m. Bulletin HAC-40.

The more you use compressed air the more you'll value quality

Put in compressed air to work the dogs, setworks, carriage feed drive — and you'll discover more and more uses for this modern, versatile, fire-safe lumber mill power.

Install a Gardner-Denver compressor — and you'll learn how low-cost, dependable, and trouble-free compressed air power can be.



Model WB — 142 to 686 c.f.m. Bulletin WB-10.

Air Motors —from 1.9 to 16.2 H.P.— Direct Drive or Geared.

GARDNER-DENVER Since 1859 — KELLER TOOLS

GARDNER-DENVER

THE QUALITY LEADER IN COMPRESSORS, PUMPS AND ROCK DRILLS FOR CONSTRUCTION, MINING, PETROLEUM AND GENERAL INDUSTRY

For convenient, cost-saving plant maintenance and repair — Gardner-Denver (Keller) Air Tools.

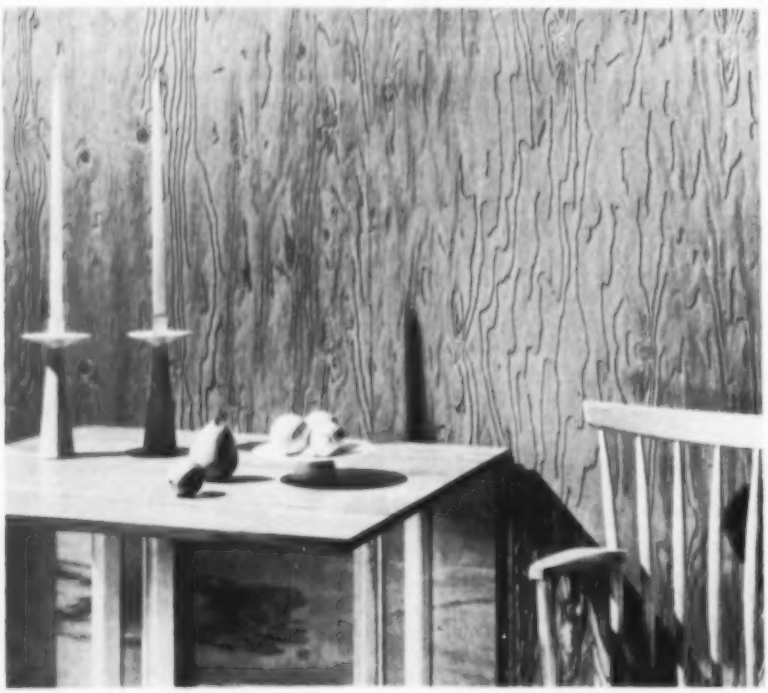
Gardner-Denver Company, Quincy, Illinois
In Canada: Gardner-Denver Company (Canada), Ltd.,
14 Curity Avenue, Toronto 16, Ontario

Seattle, Vancouver, San Francisco, Los Angeles, Salt Lake City, Denver and Wallace, Idaho

Plywood

On the Outside . . . of this house are standard panels of "one-side" Welchboard, chosen by Architect Van Evera Bailey to provide contemporary effect.

Specialties Maintain Wood's Natural Beauty and Utility



And on the Inside . . . are the popular brushed plywood panels. Associated Plywood Mills' "Sea Swirl" (above) brings out warmth and texture of the wood.

A Round-Up of the Latest in PLYWOOD SPECIALTIES

BETWEEN THE VARIOUS individual plywood companies and the Douglas Fir Plywood Association, this industry has evolved some extremely valuable and versatile plywood specialty products. On the following pages, the readers will find illustrations and descriptions of all the major specialty items now in production.

It is not surprising to find that many mills are planning to join the specialty producers during the coming year. It is expected that in the not-too-distant future the mill without some kind of a specialty will be hard to find.

A great variety of specialties are in production, e. g.

- Decorative softwood faces
- Decorative hardwood faces
- Imported veneer faces
- Plastic-surface face and/or back
- Hardboard surfaces
- Various machine faces
- Extra long or small panels
- Specially finished panels

Number of Specialty Items Will Increase During 1955

• The trend towards specialties is so great that even those mills which are not now marketing a specialty plywood product are seriously considering it. Here is what some of these manufacturers say:

A large Oregon company: ". . . we do have future plans for overlays and specialty plywood items."

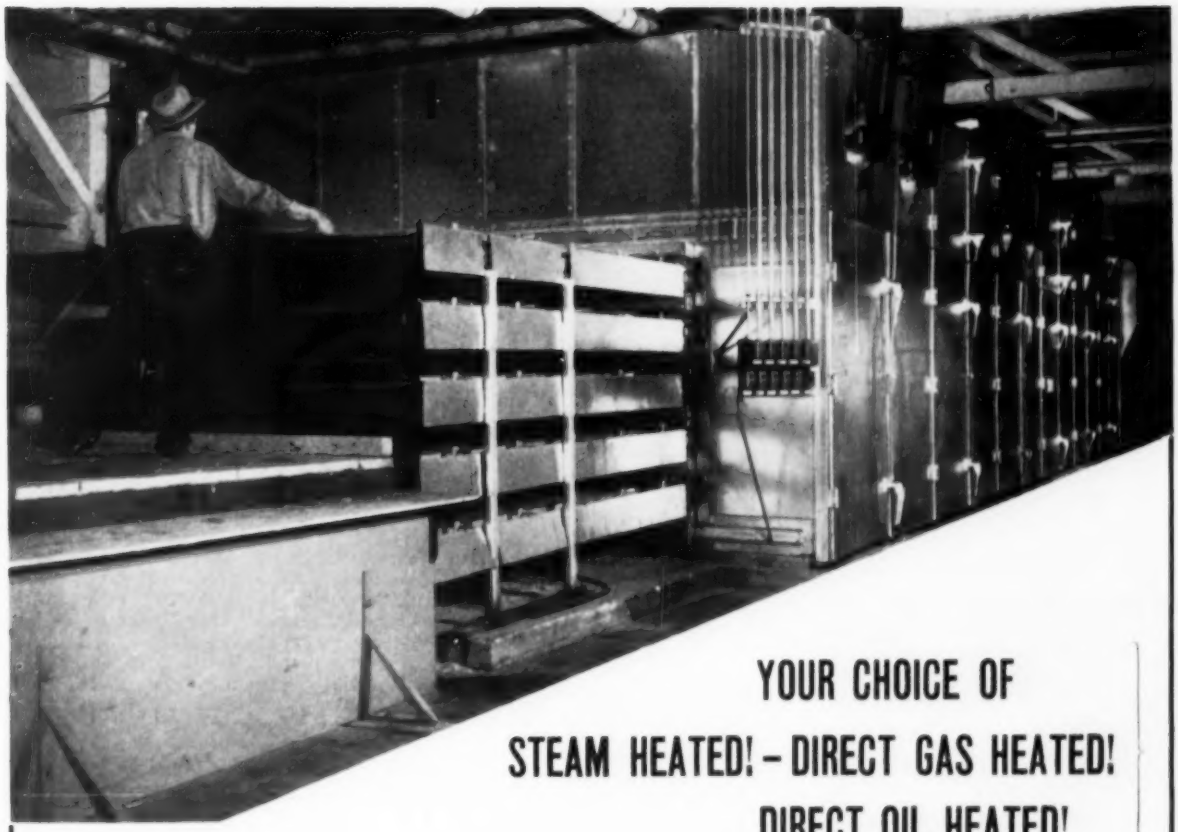
A west coast producer: ". . . we produce a specialty which is marketed through another plywood concern."

A big forest products plant in Washington: "We anticipate adding several specialty plywood items to our product line during 1955."

Central Oregon plywood mill: "At the present time we are not making any specialty items; however, we are planning on doing so in the very near future."

Soft- and Hardwood Faces

• The Kalpine Plywood Co's mill at Klamath Falls, Ore., a division of Plywood, Inc., produces four different specialty panels: birch on fir; Idaho Knotty White pine; Knotty Cedar; and Plyron.



YOUR CHOICE OF

STEAM HEATED! – DIRECT GAS HEATED!

DIRECT OIL HEATED!

ROSEBURG LUMBER CO.
ASTORIA PLYWOOD CORP.
LONG-BELL LUMBER CO.

These are only 3 of the many veneer plants on the Pacific Coast who, during the past few months, have chosen

MOORE ROLLER VENEER DRYERS

GET THE FACTS–

INCREASED PRODUCTION

LOWER DRYING COSTS

BETTER QUALITY

Designed and built on the Pacific Coast

A Moore roller veneer dryer is a paying investment.

Let us give you complete information. Write or phone our nearest office for complete data.

There is no obligation!

MOORE DRY KILN CO.

VANCOUVER, B. C. — JACKSONVILLE, FLORIDA
BRAMPTON, ONTARIO — NORTH PORTLAND, ORE.

MOORE DRY KILNS

CROSS-CIRCULATION — MOORE — INTERNAL FAN SYSTEM

Plywood

New Welchboard Carries Overlay on Two Sides

• Time is perhaps the best test of a specialty, and one of the few which have been in production for nearly a decade is West Coast Plywood Co.'s Welchboard. Originally designed to withstand the rigors of exterior use, Welchboard last year was further developed so that the smooth resin-fiber overlay was pressed to both sides of plywood panels.

Manufactured with 100 per cent waterproof glue, the new "two-side" Welchboard is adaptable for door stock in kitchen cabinets, built-in storage units, wardrobes and other applications where both sides are on view.

The new panel has solid inner plys throughout and it is faced on both sides with a layer of finely ground, clean wood fiber mixed with waterproof resin and permanently fused to the fir plywood core under heat and pressure. The resin fiber mix is 1/16 inch thick, completely blanking out the wood grain.

It was named after A. R. Welch, the firm official who developed the product.

A new brochure covering the physical properties of the panel in complete detail is now available. Write West Coast Plywood Company, Aberdeen, Washington.

Produce Specialty Face Veneer

• A small plant located in Northern Idaho in the town of Post Falls is a major supplier of high-grade sliced veneers. The major species sliced is Idaho White pine, and many of the Douglas fir plywood mills on the west coast are furnished overlays from this slicing plant, which is equipped with precision equipment. The light color of the background wood and the darker knots provide an attractive contrast.

ONE OF TWO new specialties introduced during 1954 by Walton Plywood Co. of Everett, Wash., is "EverSide," extra-wide beveled siding. EverSide is now volume-produced.

Walton Widens Specialty Range With 2 New Ones

• Walton Plywood Co., Inc., Everett, Wash., introduced two new plywood specialties last year. One is the "EverSide" beveled siding illustrated in this section; the other is a non-skid overlay panel for boat decks and allied marine uses known as "EverMarine."

The new siding has a surface of resin-impregnated overlay permanently bonded to exterior plywood. It is shipped packaged in protective paperboard cartons. At the option of the customer, this siding can be dipped in wood preservative; this operation slightly darkens the resin overlay and provides additional dimensional stability.

Pacific Saw & Knife Co. special saws perform the diagonal sawing of the plywood to produce two beveled pieces.

Walton produces other specialties, including cottonwood plywood, scrafed panels of any length.

Medford Achieves 3-D Effect

• Medford Veneer & Plywood Corp., with a plant at White City near Medford, Ore., is now turning out a specialty plywood known as "Windrift." This is a brushed plywood of great beauty that is manufactured from one piece no patch "A" face veneer, which has no blemishes such as knots or pitch pockets. Because these suitable faces occur in such a small percentage of veneer cut, production of Windrift is limited.

Windrift resembles several other brushed plywoods on the market; one difference, however, is that not all the soft grain is brushed out. The remaining soft grain tends to provide a three-dimensional effect.

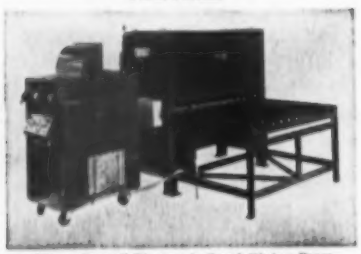
In shipping Windrift, Medford V&P wraps 10 panels in a bundle covered by heavy paper.

A new 20-opening Columbia hot press has been installed, and by summer the company expects to press its first birch on fir.

Mann-Russell Continuous Electronic Lumber Edge Gluer

Continuous Electronic Veneer Edge-Gluer

Mann-Russell-Globe Electronic Plywood Panel Patcher



Mann-Russell Electronic Scarf Gluing Press

what's your glue line?

If you edge-glue lumber, veneer, do panel repair patching, scarf plywood . . . laminate structural beams . . . do ANY type of gluing, with soft or hard woods . . . Mann-Russell can **Speed Your Production . . . Cut Costs**

No matter what **your** glue-line problems may be, Mann-Russell can offer a solution that will increase production, reduce overhead, provide greater utilization of shorts and waste stock.

Mann-Russell equipment is engineered, and single responsibility assumed, for the specific job . . . installed and serviced by factory engineers. Why not glue the **modern** way—electronically? Write, wire, or call . . .

Mann-Russell Electronics
(NORTHWEST SYNDICATE, INC.)

PLANT: South 23rd & Pacific Avenue
Tacoma 2, Washington
FUlton 1593

ARCHITECT: *Gene K. Zema, AIA* **BUILDERS:** *Barth & Watchie* **OWNER:** *Gene K. Zema, Sheridan Heights, Seattle*

Seattle's

AIA HOME OF THE YEAR

. . . featuring sleek, sturdy panels of WELCHBOARD

Another outstanding use of Welchboard—the only surfaced fir plywood of its kind.

Welchboard is completely weatherproof. One hundred per cent waterproof phenolic resin, only, is used both for bonding the veneers and in forming the face overlay. A grainless paneling results that is perfect for paint, enamel or lacquer . . . and adapts ideally for hundreds of interior and exterior applications. It's the exterior fir panel that is *always* smooth.

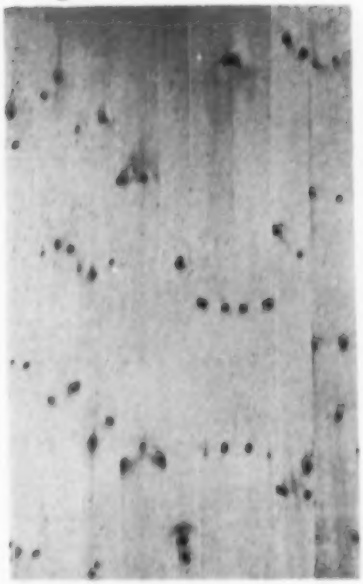
Welchboard is available with the overlay on one or both faces. Two-side Welchboard is especially popular for cabinet work, commercial displays and installations where both faces are exposed. Whether you choose it faced on one or both sides . . . make certain it's the genuine . . . make certain it's Welchboard.

WEST COAST PLYWOOD CO.
Aberdeen, Washington

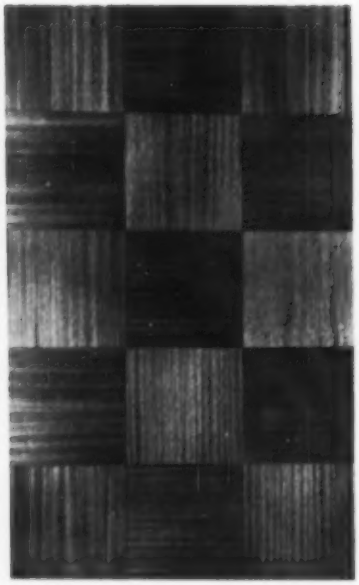
Manufacturers of famous "Tru-Bilt" Douglas Fir Plywood

Resin – Faced Overlay
WELCHBOARD
Plywood Plus

Plywood



IDAHO KNOTTY WHITE PINE as produced by United States Plywood Corp. is a beautiful treatment for decorative walls, cupboards.



ANOTHER U. S. PLY specialty is the use of Philippine mahogany squares. The joints have been accentuated instead of hidden.

Large Producer Has Wide Range of Specialties

• United States Plywood Corporation, one of the most highly diversified operators in the forest products field, is also one of the most enthusiastic exponents of plywood specialties. U. S. Plywood has a large range of imported and domestic softwood and hardwood veneer faces which are pressed to panels made in their own factories in America.

Specialties produced in the company's west coast plywood plants at Seattle, Wash., and the Shasta Division plant at Anderson, Calif., include the following:

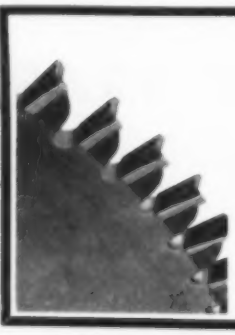
IDAHO KNOTTY WHITE PINE. The pine veneer is sliced in Seattle from imported White Pine cants. These cants are taken from the topmost part of the tree, which yields the small type knots which are considered most desirable by the trade.

FIR WELDTEX. A patented process in which panels are made by striation of top grade Fir Veneer of three ply plywood for decorative effect. Weldtex has been on the market for many years and is the oldest of the Fir specialty panels. It's desirable characteristics include the ability to hide butt joints between panels, freedom from checking, and an attractive textured surface which takes on varying highlights as the angle of observation is changed.

SURFWOOD. An abraided or brushed White Fir decorative panel. (See illustration this section.)

PLANKTEX. A variation on the Weldtex pattern to produce textured Philippine Mahogany panels which still retain the pleasing effect of na-

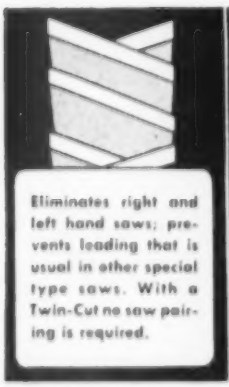
(Continued on page 138)



Sensational
CASCADE CARBIDE TWIN-CUT SAW

THE CASCADE TWIN-CUT SAW IS THE ONLY ONE OF ITS KIND ON THE MARKET!

CHECK THESE FEATURES



Eliminates right and left hand saws; prevents loading that is usual in other special type saws. With a Twin-Cut no saw pairing is required.

Note how each tooth of saw is designed to cut on each side simultaneously.

- HARDBOARD FACED VENEER
- PLASTIC FACED VENEER
- PLYWOOD TRIMMING
- DOUBLE-END TRIMMING OF VENEER AND LUMBER
- FLUSH DOOR TRIM, FURNITURE TRIM

This new, versatile, 80-tooth saw produced exclusively by Cascade, establishes a new milestone in saw blade manufacture. This saw will soon pay for itself in savings resulting from reduction of usual resharpening cost, and principally through its longer periods of precision and profitable operation. Smooth cuts on both sides—no fuzzing, splintering, loss of expensive stock—no right and left hand saw pairing necessary. This sensational new saw will produce the same results as a conventional 160-tooth saw at no additional cost.

Inquire by writing, by phone, by wire.

Cascade Saw & Tool Company

Phone SHerwood 8-3339
P. O. Box 179
CHEHALIS, WASH.

Phone 658
314 Columbia Street East
NEW WESTMINSTER, B. C.

FURAFIL* 100 *is in this* PICTURE

This Alaskan scene pinpoints the location of one of the many plywood mills using Furafil 100.

Photo courtesy of F. J. Shelton, Reichhold Chemicals, Inc.

From California to Canada, from Canada to Alaska, Furafil 100 glue extender is finding increasing use in Douglas fir plywood because of the unique properties and characteristics of this product. These properties and characteristics include:

- *Availability in quantity the year around*
- *Ability to thicken and control glue viscosities when subjected to uncooked alkali digestion*
- *Excellent spreadability*
- *The glue line shows up well on the core permitting ready inspection of the glue spread.*

Write for a sample of Furafil 100 and try it with the glue recommended by your supplier.

*Reg. U. S. Pat. Off.

The Quaker Oats Company **CHEMICALS DEPT.**

344-F, The Merchandise Mart, Chicago 54, Illinois
Room 544-F, 120 Wall St., New York 5, N. Y.
Room 444-F, P. O. Box 4376, Portland 8, Oregon

Plywood

SHADOWOOD is the name M & M Wood Working Co. has given to their specialties which stress the bas-relief beauty of the grain in redwood, fir. An exterior bond is available.

Malarkey Accentuates Beauty of Redwood, Fir

THE M&M WOOD Working Co.'s Portland (Ore.) Plywood Division has developed several redwood plywood specialties that are widely used for interior paneling in homes, offices and commercial establishments. The trade names for these items are Malarkey "Rusticwood," "Shadowood," and "Plyweave."

The first two are pictured above. Plyweave has an unusual woven texture which is made by embossing the panels under heat, either fir or redwood. One feature of the beaded appearance resulting is that nail holes are fairly well hidden in the pattern. Plyweave comes in interior and exterior glue lines.

RUSTICWOOD is vertical interior paneling featuring figured grain redwood. The grooves are 3/8" wide, 1/2" deep and spaced 4" on center. Natural finish is applied for interior.

Rusticwood and Shadowood are wire-brushed products.

To blend with Shadowood, M&M produces special moldings. A lumber panelling in 8, 12 and 16-ft. lengths with a similar pattern is also produced.

One Specialty Now; More Later

• Diamond Lumber Co., the plant which just recently started turning out its first plywood in a converted navy dirigible hanger at Tillamook, Ore., lost no time in turning to a Knotty Idaho White pine specialty. This company expects to produce several new specialties soon.

U. S. Plywood Corp.

(Continued from page 136)

tural grain patterns. Available prefinished.

RIBBON SLICED PHILIPPINE MAHOGANY. The veneer is sliced and book matched. This is a widely used in furniture, paneling, cabinets and in marine grade.

PLANKWELD. A prefinished ribbon Philippine paneling cut into 16¼" "planks" which join together without face nailing by means of patented clips.

MAHOGANY SQUARES. Factory-finished plywood squares of book matched, sliced veneers for maximum decorative effects.

Several other west coast specialty items are **Duraply,** an exterior grade fir plywood panel overlayed with a medium density plastic sheet for use in siding, cupboard doors, boats, outdoor signs; vertical grain "sliced" fir and cedar, knotty cedar, and birch veneer panels.

Specializing on Structural

• Linnton Plywood Assoc. in Portland, Ore., has concentrated its output in the sheathing grades, specializing completely on structural fir panels such as Plyform. With both a cold and a hot press as well as sanding facilities, Linnton is equipped to handle the complete structural line.

MTC

THE TRADEMARK OF QUALITY

PLYWOOD & WOODWORKING MACHINERY

Representing and Servicing

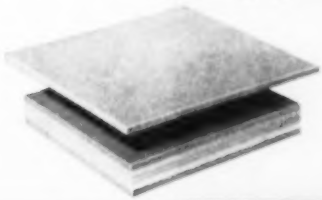
1. **Greenlee Bros. and Co.**
   Precision skinner saws and cut-off saws
2. **Mattison Machine Works**
   Hydraulic, automatic stroke belt sanders
3. **Lawrence Mch. and Mfg. Co.**
   Auto-feeders, stackers, spreaders, mixers and special plywood machinery
4. **Haywood Cutter Head, Inc.**
   Carbide Tipped Cutters
5. **Columbia Press Division**
   The Lodge and Shipley Co.
6. **Lamb-Grays Harbor Co.**
   Veneer hogs and scarfing equipment
7. **Orton Machine Co.**
8. **Pacific Saw & Knife Co.**

Let us furnish you with information on precision skinner and cut-off saws, sanders, plywood presses, glue spreaders, hogs, scarfing equipment and clippers. Also moulders, ripsaws, surfacers, resaws and many other plywood and woodworking machines.

TALLMAN MACHINERY COMPANY, INC.

2057 15th AVENUE, WEST • PHONE ALDER 5755 • SEATTLE 99, WASHINGTON

LEBANITE LEBANEX



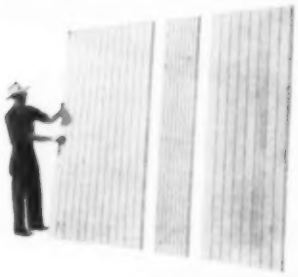
Here is the nation's newest hardboard. *Above:* A sheet of *Lebanite*, smooth on both sides and extremely strong. *Below: Lebanex*, with plywood core and *Lebanite* faces, provides a perfect painting surface.

CASCADES
is making wood
more useful

CUSTOM CUTTING

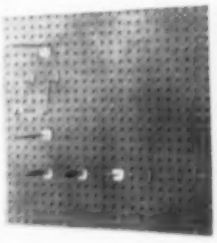
Cascades' Custom Cutting Division makes plywood and *Lebanite* products of almost any size or shape. A few of these are shown in the foreground. This division is equipped to bore, shape, rabbet, shiplap, bullnose or rout—exactly according to specifications or blueprints.

TEXTURE 1-11



One of the most exciting new products of the Custom Cutting Division is *Texture 1-11*, recently developed by D.F.P.A. and the subject of a new national advertising campaign. The ¼" deep grooves give plywood an appealing new appearance, which is gaining wide acceptance among contemporary architects and builders. Available in 16", 32" and 48" widths.

PERFO-BOARD



Advertised as *Perfo-Board*, this sheet of *Lebanite*, with its uniform pattern of square holes and a variety of movable attachments, makes a versatile wall storage or display unit.

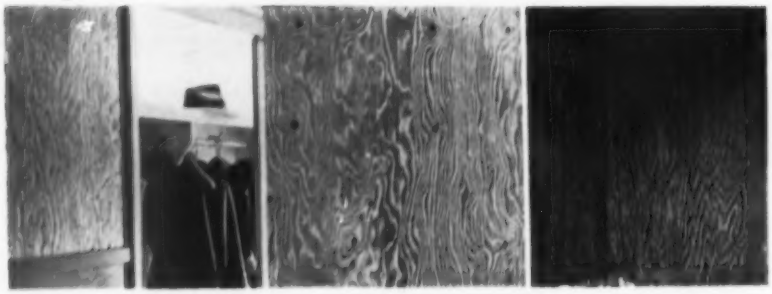
INDUSTRIAL TABLES

Made of sturdy *Lebanex*, with patented sockets for pipe legs, which adjust easily for uneven floors. They hold a lot of weight and have an extremely durable surface. Legs are easily removed for compact storage. Available in 1½" and 1" thicknesses and sizes 2' x 4', 3' x 6', 4' x 8'.

CASCADES PLYWOOD CORPORATION

Factories: Lebanon, Ore.
General Offices: Public Service Bldg., Portland, Ore.

Plywood

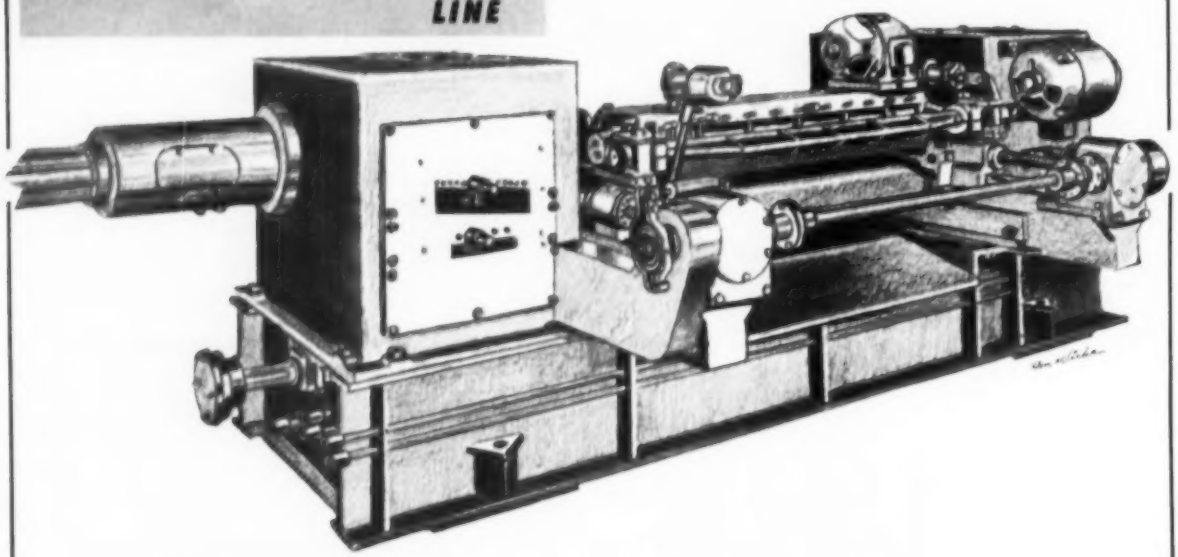


SEVERAL MANUFACTURERS have introduced striking "brushed" or abraided plywood panels that have been widely used in residential and commercial applications. At left is GRAIN-GLO, a product of Puget Sound Plywood of Tacoma, Wash., shown in their new office. Center is United States Plywood Corp.'s SURFWOOD, a west coast specialty made from white fir; and at far right is a specialty introduced a few years ago by Pacific Veneer & Plywood Division of Canadian Forest Products, New Westminster, B. C., called ETCH WOOD.

Mt. Baker Using Poplar

• A poplar face on fir is one of specialty items manufactured along with the regular line of Int. and Ext. Mt. Baker Plywood, Inc., at Bellingham, Wash. This producer also is one of the few to utilize native birch on fir. They also press a boat hull grade in regular and long lengths; relief grained brushed panels in select fir; knotty fir and hemlock; plus poplar on fir reglue stock and all-poplar reglue stock. Mt. Baker is also one of the fir plywood industry's 11 mills now turning out Texture 1-11, in both 16 and 32-in. widths.

THE
BAMFORD-PREMIER
LINE



★ VENEER LATHES
★ SLICERS — FACE VENEER
★ TRAY SYSTEMS
★ LATHE LOADERS
★ BARKERS
★ BARKER LOADERS
★ SLICERS — BOX
★ GRINDERS
★ SPECIAL EQUIPMENT FOR VENEER AND PLYWOOD PLANTS
★ CRAVENEER MACHINERY

MANUFACTURED BY
PREMIER GEAR & MACHINE WORKS
DESIGNED AND SOLD BY
CHAS. F. BAMFORD
Special Machinery
NEW FLIEDNER BUILDING, PORTLAND, OREGON

A-M ADHESIVE PRODUCTS

***Protein Adhesives:** Casein, soya and soya blend glues for the plywood and woodworking industries.

Synthetic Resin Adhesives: Phenol-formaldehyde, urea-formaldehyde, phenol-resorcinol-formaldehyde and resorcinol-formaldehyde resins for plywood, woodworking and laminating industries.

Special Resins: Phenolic resins for making laminated products, precipitating resins for hardboard manufacture, impregnating resins for overlay production, resins for wet-strength paper manufacture and special resins for complete utilization of forest products.

Sealers: Quality panel sealer combining both water repellency and paintability for plywood and woodworking industries.

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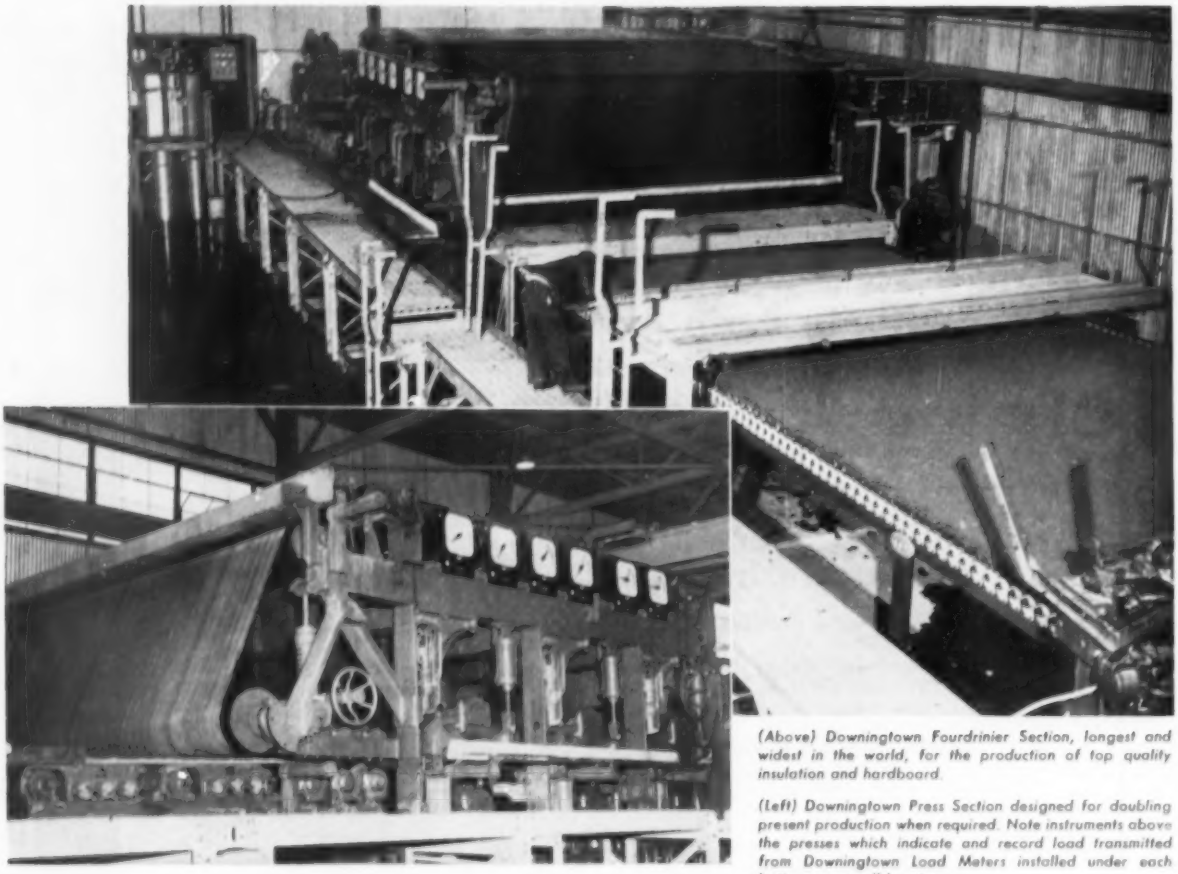
CHICAGO 11, ILLINOIS
101 East Ontario Street

DOWNINGTOWN *Salutes*

THE NATION'S GROWING WALLBOARD INDUSTRY



(Above) Downingtown Fourdrinier Section, longest and widest in the world, for the production of top quality insulation and hardboard.

(Left) Downingtown Press Section designed for doubling present production when required. Note instruments above the presses which indicate and record load transmitted from Downingtown Load Meters installed under each bottom press roll bearing.

IN ITS CONTINUING PROGRESS TOWARD
THE TOTAL USE OF OUR FOREST RESOURCES

Downingtown is proud to have played a part in the designing, building and successful operation of many of the most important mills in the industry.

DOWNINGTOWN MANUFACTURING CO.
DOWNINGTOWN, PA.

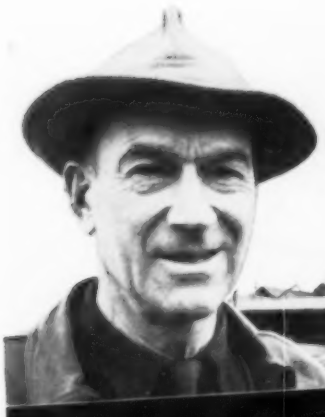
DOWNINGTOWN

DESIGNERS AND BUILDERS OF PAPER, BOARD AND FELT MACHINES

75 *th year*

West Coast Subsidiary:
MONARCH FORGE & MACHINE WORKS, INC.
Portland 10, Oregon

Representatives: UNITED STATES MACHINERY CO., INC., 90 Broad St., New York 4, N.Y.; JOHN V. ROSLUND, Pacific Bldg., Portland 4, Ore.; THE EMERSON MFG. CO., Lawrence, Mass.; KOEHRING WATEROUS, LTD., Brantford, Ont., Can.



"After careful comparison of line bar resaws for our mill, we picked **Monarch** because of its performance!"

Fast Precision STRAIGHT CUTS on MONARCH LINE BAR RESAW

EARN PREMIUM GRADE LUMBER PROFITS!

Steady High Rate of Production At Minimum Maintenance

Here's What Kinsley L. DuBois DuBois Lumber Co., Vancouver, Wash., told us:

"We have considered modernizing our operation for some time, and as one of the first steps decided to purchase a line bar resaw. After studying several makes and sizes, we thought you would be pleased to know that we have chosen your Monarch line bar resaw with a 5-foot band mill. We find that this unit suits our purpose well. The selection was based upon evaluation of its efficiency, strength and apparent lack of maintenance problems. During the time we devoted to looking at other makes, we did not find any other that quite measured up to the Monarch."

Kinsley L. DuBois

The line bar resaw, as developed and perfected by Monarch Forge & Machine Works, Inc., provides the industry with a low-cost, heavy duty machine with superior features seldom found in conventional resaws. Compare its features; compare the investment with the long trouble-free service, your choice will be Monarch!

MONARCH SUPER 5' BAND MILL

Exceptionally heavy all-steel construction with precision-machined surfaces. Readily adaptable for line bar resaw.

MONARCH LINE BAR

The Monarch Line Bar assembly feeds lumber with speed and accuracy, maintaining a constant high rate of production. Where other less satisfactory feeding systems are already in operation, the simplicity of design of this unit makes it readily adaptable to most existing band mills.

FRAME: Heavy 8-inch channel, well braced and thoroughly welded to assure rugged foundation.

HORIZONTAL ROLLS: Eight 24-inch horizontal rolls, diameter 8 ½", carried in heavy self-aligning ball-bearing pillow blocks and driven by 1" pitch roller chain. All rolls are cambered, thus holding material being cut against the line bar. Positive feed is provided by spur roll next to the saw.

LINE BAR: Vertical steel rollers equipped with ball bearings are attached to the face of the bar to overcome friction due to the lumber being forced against it by the cambered horizontal rolls. 6" channel fenders between the vertical rollers prevent short or irregular lumber from hanging up.

HEAD BLOCKS: Fabricated and carefully machined. Cast bronze nuts, accurately fitting positioning screws, are installed in cast iron heads which carry line bar.

POWER-DRIVEN PRESSURE ROLL: Built into end of air-operated crowder, feed roll serves dual purpose of holding lumber against line bar and feeding material in steady flow through saw.

SET WORKS: Pre-set electric set works, exclusive with Monarch powered by 5 hp. 220/440-volt, 3-phase, 60-cycle electric motor.

CAPACITY: Maximum opening of machine is 24 inches: line bar opens out 12 inches and crowder moves back 12 inches.

MONARCH FORGE & MACHINE WORKS, INC.
2130 N. W. York Street, Portland 10, Oregon

Gentlemen: Please send me details on the Monarch Line Bar Resaw with specifications and descriptive literature.

Name _____ Title _____

Firm _____

Address _____

City _____ Zone _____ State _____

SAWMILL MACHINERY
LOGGING EQUIPMENT
PULP MACHINERY
PAPER MACHINERY

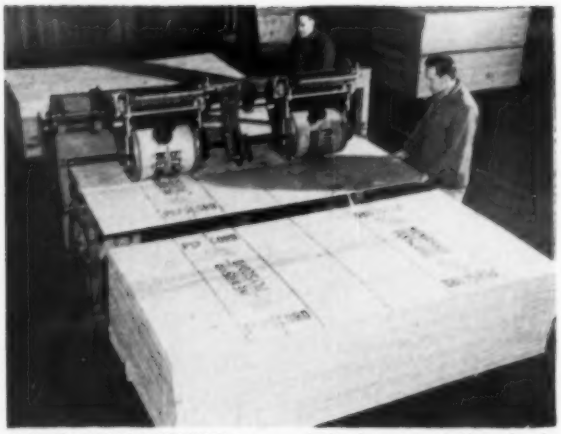
Subsidiary of Downingtown Manufacturing Company
Downingtown, Pennsylvania

Monarch
Forge & Machine Works

2130 N. W. YORK ST PORTLAND 10, OREGON

Plywood

KNOTTY CEDAR is one of a wide range of new specialties in volume production at the plant of Puget Sound Plywood, Tacoma, Wash.



JUMBO GRADE-MARKING is one of the latest innovations in the field of specializing plywood for greater appeal and wider use. Photo shows the Plyscord marking machine in operation at the Menasha Plywood Corp., North Bend, Oregon. This is the first in industry. The markings accomplish: (1) easily recognized grade marking; (2) advertising; and (3) ease in nailing (note parallel lines sixteen and twenty-four inches on center.

Plant Uses New Office as Specialty Showcase

• Puget Sound Plywood, Inc., is producing a number of specialties ranging from brushed plywood "Grain-Glo" to knotty cedar. The firm is showing off their wide variety of specialties in new offices outside the plant. The specialties produced by this firm include Texture 1-11, brushed T1-11, "Grain-Glo", birch-faced, knotty pine and knotty cedar plywood.

All of these specialties are displayed in use for paneling in offices and halls in the 60-60-foot building which is identified from the exterior by a plywood pylon carrying the firm name. The building was designed by head carpenter Gunnar Udd and supervised by him in cooperation with Sven Frederickson, another working member of the firm.

THE BRUSHED PLYWOOD window section is supported on the other sides

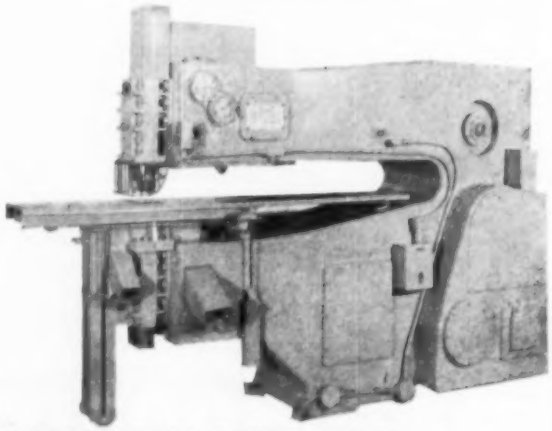
(Continued on page 146)

SKOOG

VENEER PATCHERS

FOR FACES & BACKS

SKOOG Patcher Type OB is recommended for faces and backs. This is a precision tool manufactured to do a precision job. This type can be equipped with either round or elliptical dies.—For general patching we recommend Skoog Type R . . . a fast, simple operation proven by many years' use.



WRITE TODAY FOR SPECIFICATIONS

SKOOG ENGINEERING CO.

P. O. Box 102 Olympia, Washington

FJELLMAN

makes money for you!

No dead weight in castings—Fjellman presses are all-steel construction . . . minimum yield, great rigidity, light floor loading, low shipping cost, minimum building alterations, quick installation. Bored solid Swedish fire-box carbon steel platens distribute absolutely uniform heat over entire area. Guaranteed less than .003" deflection. *Quick closing . . . automatic, accurate constant pressure.*

ALL FJELLMAN presses available with American equipment

American controls and gauges as well as pumps and motors will be furnished when specified. S.A.E. replacements throughout.

FJELLMAN AMERICAN INC.

Your exact requirements will be met from the wide selection of Fjellman-American hydraulic veneer presses. Up to 24 openings; platens up to 8' x 24'; pressure ranges 90-4000 PSI. Full information with all engineering and installation details, costs and delivery furnished without obligation.

FJELLMAN - AMERICAN, INC.

105 REPUBLIC AVENUE JOLIET, ILLINOIS

Plywood

Plant Uses New Office

(Continued from page 144)

of the building with wide-lapped horizontal plywood siding, providing another nice contrast in line and texture.

A modern waiting room features another new specialty of this firm—brushed Texture One-Eleven. The relief grain in the heavily shadow-lined panel provides for an outstanding architectural effect.

Built-ins and paneling in the main office visible over the counter are all birch plywood in bleached wipe finish that is light and airy.

In the spacious board room, the company again used brushed T 1-11 to frame the modern-fold door concealing a coffee bar in one end wall. The other walls of the room are paneled in noble fir with a bleached wipe finish.

IN THE GENERAL manager's office occupied by A. W. Berggren, the walls are natural-finished Philippine mahogany panels. John Martinson, the sales manager occupies an office paneled in select birch and knotty Idaho cedar—a dramatic combination. Knotty pine plywood finished natural is used in a spare office.

The halls are paneled with a combination of brushed fir plywood in a two-tone finish and painted solid color plywood surfaces.

Throughout the offices, the company has taken great pains to bring out the best in each product through the development of imaginative and decorative finishes.

Georgia-Pacific Reports Specialties Very Successful

• One of the country's largest plywood companies, Georgia-Pacific, has recorded overall sales gains, but the greatest gain is that made by plywood specialty items.

These G-P specialty products include Ripplewood textured wood wall paneling; Savannah Oak prefinished oak paneling in random widths; GPX—a naturally finished, plastic-surfaced plywood; and GPX-Green, plastic surfaced plywood for either exterior or interior use.

Made from old-growth hemlock, Ripplewood wall paneling accentuates the beautiful swirling grain of the wood. The 4' x 8' panels are sealed with a new type of resin, slightly pigmented with white, and require no priming.

A VARIETY of decorative effects can be achieved using either paint or stain. This specialty resists scratching or marring.

Sales appeal of G-P's pre-finished Savannah Oak paneling in 8' lengths and random widths is that it can be installed by the do-it-yourselfers. A novel installation method makes use of a furring strip nailed on any wall surface or directly to the studs, and simple metal clips. Savannah Oak is naturally finished and waxed at the factory.

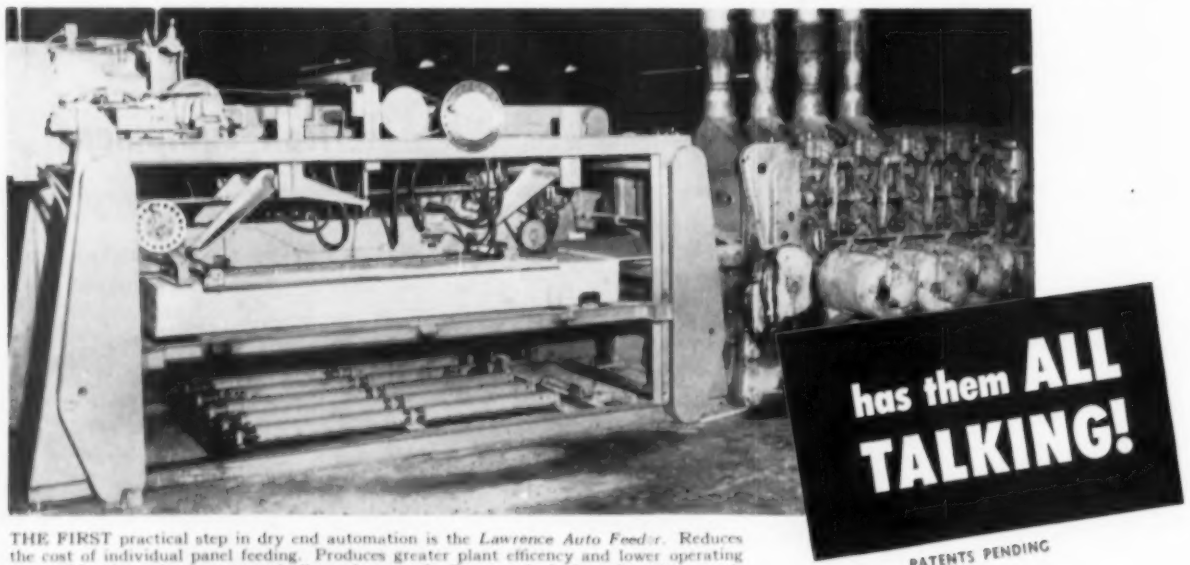
One of G-P's largest sellers is plastic-faced "GPX" made of the highest grade exterior Douglas fir plywood with a solid core, bonded with water resistant phenolic resin adhesives. It comes in four grades: (1) concrete form high density sheet; (2) general use, also a high-density sheet; (3) exterior paint grade, medium density sheet; (4) interior paint grade, a medium density.

GPX-Green is a lower-priced specialty, produced in standard 4x8' panels, plastic-surfaced on both sides. This surface is specially developed for painting and abrasion resistance and is highly-impervious to hairline checking.

Combine Own Hardboard, Plywood

• Coos Bay Lumber Co., Coquille, Ore., which produces hardboard in its own modern new plant, utilizes this same item as an overlay for their plywood panels. When pressed on one side, the panels are used for underlayment; when on both, the panels go for cabinet work and other fixture-type uses where an attractive, smooth finish is desired.

The *Lawrence* AUTO-FEEDER



PATENTS PENDING

THE FIRST practical step in dry end automation is the *Lawrence Auto Feeder*. Reduces the cost of individual panel feeding. Produces greater plant efficency and lower operating costs. Machine reloads automatically and starts feeding panels in less than 30 seconds time. Nine machines now successfully employed in feeding sanders and skinner saws. Available in two models and six sizes.

Manufactured by

Lawrence MACHINE & MFG. CO.

Manufacturers of Auto Feelers—Auto Stackers—McFall Glue Spreaders

2431 SIXTH AVENUE, SOUTH SEATTLE, WASHINGTON

Sold by

TALLMAN MACHINERY CO., INC.

2057 FIFTEENTH AVENUE, WEST, SEATTLE 99, WASH.

Jenkins

Pioneers in Woodworking Machinery Since 1873

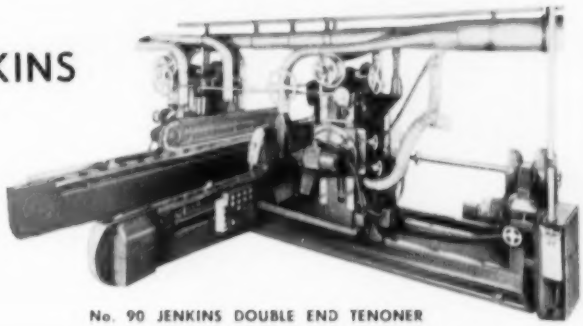
DIVISION OF CURT G. JOA, Inc. SHEBOYGAN FALLS, WISCONSIN

EXCLUSIVE FIRSTS FOR

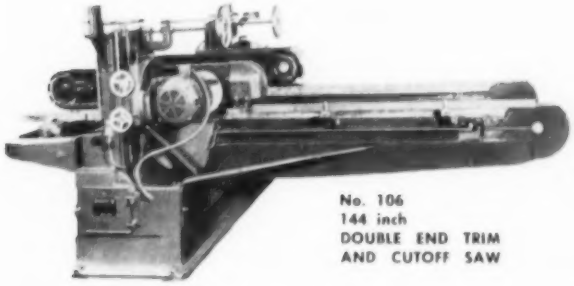
THE NEW CUSTOM-BUILT JENKINS DOUBLE END TENONER

- Patented Oilomatic Feed Chains and Tracks
- Automatic Hopper and Return Feed (Optional Extra)
- Quick-Lift Mechanism (Optional Extra) — Insurok Chain Links
- Positive Feed Lubricators — Magnascopic Setting Device

THESE ARE EXCLUSIVE JENKINS FEATURES!



No. 90 JENKINS DOUBLE END TENONER



No. 106
144 inch
DOUBLE END TRIM
AND CUTOFF SAW

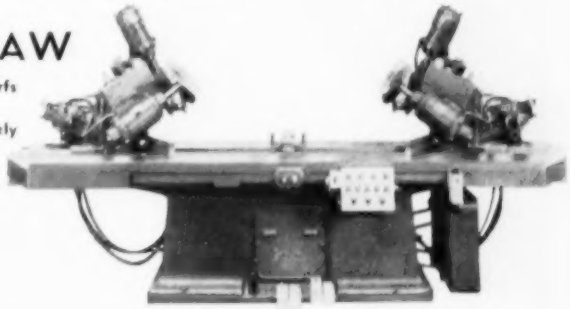
THIS HIGH PRODUCTION

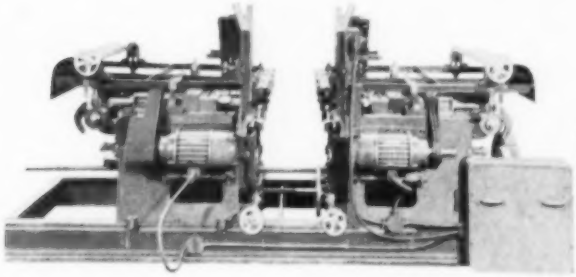
JENKINS DOUBLE END TRIM AND CUTOFF SAW

- Handles Material from 5" to 144" Long, Up to 60" Wide, 4" thick, 18½ to 56 FPM
- Patented Insurok Lined Piston Type Chains and Tracks
- Positive Feed Lubrication — Magnascopic Setting Device
- Automatic Hopper and Return Feed (Optional Extra)
- Fast — Accurate — Dependable

JENKINS TWIN-HYDRO MITER SAW

- Cuts Double End Compound Miters, Simultaneously Making Clamp Nail Kerfs in One Pass
- Hydraulically Operated Saw Slides Operate Together, Singly or Alternately
- New Cutting Principle Allows Use of 12" Saws for All Stock Widths
- Stock Lays Flat on Stationary Table — No Stock Forms





JENKINS COMBINATION RAIL BORING, GLUING, and DOWEL DRIVING MACHINE

- Completely Automatic, from Stock Hopper Feed to Dowel Driving and Outfeed
- High Speed — Trouble Free

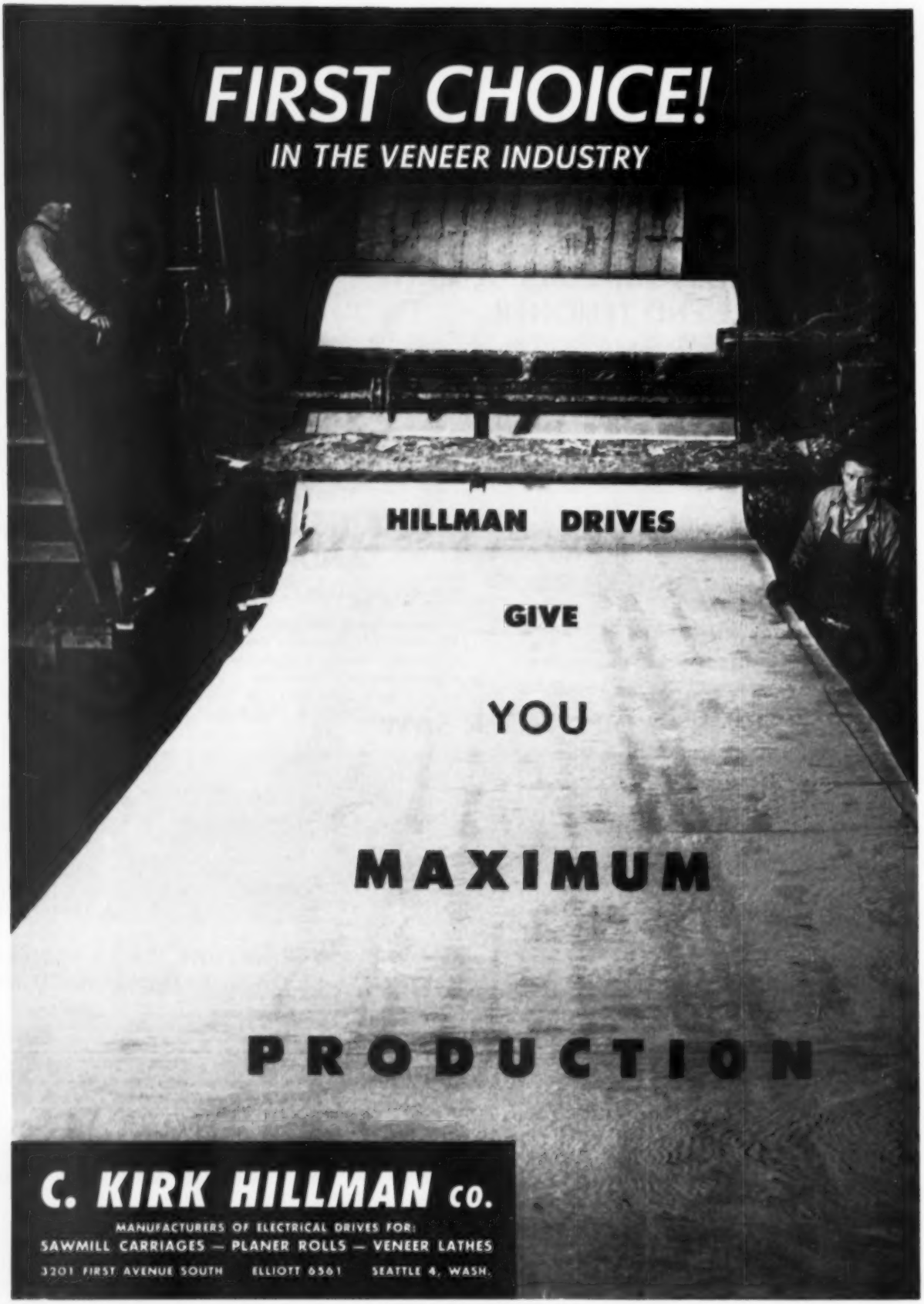
Announces with Pleasure

GLOBE MACHINE MFG. CO.

CALVIN BAMFORD

301 East 11th Street – Tacoma, Washington

As Exclusive West Coast Representatives


FIRST CHOICE!
IN THE VENEER INDUSTRY
HILLMAN DRIVES
GIVE
YOU
MAXIMUM
PRODUCTION
C. KIRK HILLMAN CO.
MANUFACTURERS OF ELECTRICAL DRIVES FOR:
SAWMILL CARRIAGES — PLANER ROLLS — VENEER LATHES
3201 FIRST AVENUE SOUTH ELLIOTT 6561 SEATTLE 4, WASH.

A DELICATELY TEXTURED plywood design is "Shan-Tong," used above on desk and walls of an office. This same new material evoked considerable interest at the recent meeting of Western Retail Lumbermen's Association in Seattle, Wash.

LINN PLYWOOD CORPORATION

LIN-PLY

Manufacturers of

DOUGLAS FIR PLYWOOD

INTERIOR GRADES

Albany, Oregon Phone: WA 6-1513

MADE A "HIT" AT DEALER MEETING

New Shan-Tong Plywood

• Sierra Lumber, Inc., Eugene, Ore., is now producing its two designed products known as "Shan-Tong" and "Sketchwood".

These products are made from regularly manufactured Douglas fir plywood and are processed with an embossing and partially burned process to create an attractive finish. The machines which do the work are patented by the Sierra Lumber Products of Pasadena, Calif., and the designs are copyrighted by the same company.

Chief stockholders of Sierra Lumber, Inc., are Stuart C. Smith, Pres.; Eugene L. Payne, Vice Pres.; and Raleigh Chinn, Sec'y.

There are a total of 4 of these machines operating. There is one each at Sierra Lumber Products, Pasadena, Calif. and Sierra Lumber, Inc., Eugene, Ore. The two others are at Astoria Plywood, Astoria, Ore. and Canadian Forest Products Co., New Westminster, B. C. Any plywood manufacturers can have the designs placed on their plywood by shipping it to the Eugene plant. There it is processed on a milling-in-transit rate. This product was on display at the Western Retail Lumbermen's Show in Seattle recently, and was very well received by the retail lumber trade. The same display was a hit at the Portland, Ore., Home Show on March 4, 1955.

Douglas Fir

SHEATHING

For Wall Sheathing

Roof Decking

Panel Backing

Plugged and Touch-Sanded for Sub-Floors and Underlayments

CORVALLIS PLYWOOD

Plant: Corvalis Airport, Phone PLaza 3-4463

Office: P.O. BOX 411 CORVALLIS, OREGON

CANADIAN FOREST PRODUCTS LTD

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PACIFIC VENEER and PLYWOOD DIVISION

New Westminster, Canada

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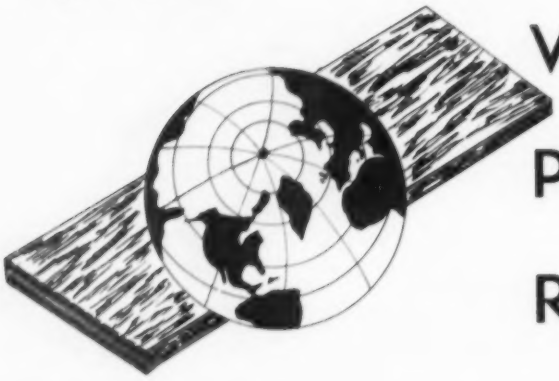
PACIFIC VENEER and PLYWOOD CORPORATION

Bellingham, Washington, U.S.A.

•

manufacturers of PV Brand Douglas fir plywood & hardboards

Plywood



World Plywood Reports

10 EXAMPLES of Plywood Made in Sweden

Outlook Good in Sweden

NILS F. NILSSON

• A year ago in THE LUMBERMAN's review of 1954, I reported that judging from the current conditions a fairly stable market appeared for 1954. I think the plywood industry in Sweden and probably also in other exporting countries, will agree that the year now ended can be described as fairly satisfactory, at least as regards the general demand. Statistics of Swedish production and shipments of plywood and blockboard are not yet available but the figures are expected to reach what we may call a normal quantity of about 60,000 cubic metres or possibly slightly under that.

However, it is only natural that the output of the plywood industry generally is dependent on and closely connected with the fluctuations in the general world trade. For the time being, the Swedish mills are fairly well occupied and their stock of orders seems to be on a rather satisfactory level, which may be taken as a healthy sign of a balanced market.

THAT DOES NOT necessarily mean, however, that all is well from the manufacturers point of view. It is

Mr. Nilsson is with the Swedish Plywood Mfrs. Assoc., Stockholm.

(Continued on page 152)

U.S. Supplies Less Than 0.1% Of British Plywood Imports,

• Reported from London: The bulk of the plywood used in Britain is imported from a great many countries, our manufacturing industry being relatively small in size and producing only about 20% of the plywood used.

Home manufacture is confined almost exclusively to tropical species, chiefly West African, which are imported in log form. The plywood made is completely of an exterior grade using urea and phenolic adhesives.

I think it is true to say that it is only comparatively recently that the potentialities of plywood as a structural material have come to be realized by designers and industry in this country. Recent years, however, have seen it used on a fairly large scale in school construction for such purposes as box beams and girders.

We also recently developed a plywood grain silo, which is now being marketed in a modified form by a firm manufacturing plywood.

One of the reasons why tropical hardwood plywood has not been more widely used for structural purposes is that no design data are available such as there are for Douglas fir in the U.S.A. and Canada.

Where Britain got its plywood in 1953:

Br. Empire (incl. Canada)	**576,726 cu. ft.**
Czechoslovakia	**187,510 cu. ft.**
Finland	**2,307,067 cu. ft.**
France	**256,671 cu. ft.**
W. Germany	**263,552 cu. ft.**
Israel	**101,835 cu. ft.**
Japan	**137,797 cu. ft.**
USSR	**866,712 cu. ft.**
Sweden	**256,932 cu. ft.**
USA	**1,523 cu. ft.**
TOTAL for all countries, incl. minor exporters	**5,194,920 cu. ft.**

Mr. Money is deputy director of the Timber Development Association, London, England.

P. L. MONEY

A REAL TESTIMONY to the resistance of Bruynzeel's marine plywood is its use as wings in the windmills of Holland. These wings are turning over night and day, winter and summer, in sun and rain and they do a better job than the age-old sails.

Big Dutch Plywood Maker Reports On Its Activities

ONE OF EUROPE'S major producers of plywood, doors and pre-fabricated millwork is the Bruynzeel Deurenfabriek N. V. at Zaandam, Holland. This organization, which is far removed from its timber source in Africa, decided its economic survival lay in development of plywood specialties, and Bruynzeel is now producing plywood which is used throughout the world.

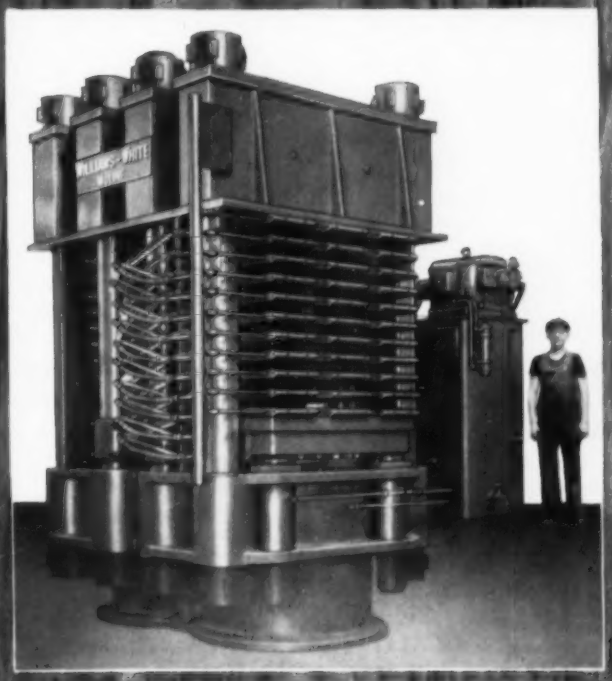
Years of exhaustive research resulted in the making of their marine plywood. The dark Regina Mahogany marine plywood as well as the light Occume panels have been made in sizes as large as 32' x 5'8". Other Bruynzeel specialties are plywood for concrete forms, a factor of great importance in the restoration of postwar Holland and other European countries, and asbestos plywood panels, which are used for separation walls in large sea-going passenger steamers.

BRUYNZEEL'S FACTORY also manufactures a line of standard products. However, these products such as Occume (Gaboon), Regina Mahogany, Macore and Limba plywood generally lend themselves to higher quality products, such as the more expensive furniture.

During the past year Bruynzeel encountered a mounting demand for their higher-priced products and production soon was six months behind orders.

The company reports that its Holland and Dutch Guiana plywood mills are turning out an ever-increasing volume.

WILLIAMS-WHITE . . . HOT PLATE PRESSES
for Laboratory and Production



At top: 90 ton, 38" x 24", single opening, one-piece frame, Hot Plate Press with electrically heated plates.

Above: 2,600 ton, 101" x 53", 10 opening, end loading Hot Plate Press with steam heated plates.

The machines illustrated are typical of the wide range of Hot Plate Presses designed and built by WILLIAMS-WHITE & CO. in capacities from 50 to 5,000 tons. Each is engineered to your specifications.

The name WILLIAMS-WHITE & CO. is synonymous with quality . . . well known all over the world. When you have requirements for hot plate presses, why not take advantage of our designing and building "know-how"? For details write any of our representatives, or to WILLIAMS-WHITE & CO.

REPRESENTATIVES

ALLIED NORTHWEST MACHINE TOOL CORP.
Portland, Ore.

GEORGE A. DAVIES, JR. MACHINERY CO.
Los Angeles, Calif.

WILLIAMS-WHITE & CO.
Chicago Office — J. E. Maynard, Mgr.
53 W. Jackson Blvd.

A CENTURY IN MOLINE • 310 EIGHTH ST.

WILLIAMS-WHITE & CO.
MOLINE, ILLINOIS

Plywood

INTERIOR VIEW of the modern plywood plant of Etz Lavud, Ltd.

Real Progress Is Being Made in Israel's Plywood Industry

ERNEST ASCHNER

• Israel now has three producing plywood plants, one of which also turns out panel boards, and another panel board plant under construction. The industry is new since World War II, having been started with U. S. machinery.

The present combined capacity of the industry is about 25,000 cubic meters of plywood annually, and machinery for the manufacture of further 7,000 cubic meters is on order, while local consumption is not more than 8,000 cubic meters. Factories are now working almost to capacity, and thus more than half of the current production is exported. The main market is at present Britain, and a start has been made with exports to U.S.

The raw material is mainly of West African origin—obeche and okume—and smaller quantities of mahogany from the Philippines. Part of the waste wood in its various forms is used for the manufacture of building boards, both soft- and hardboard.

A group of foreign investors is planning to erect a mill combined with production of plywood and veneer in a port area in order to save transport costs.

Mr. Aschner of the Jewish Agency for Palestine is an authority on Israel industry and editor of the publication Economic Horizons.

New Mill for Austria

• Austria, with a deficit in home plywood production, has a new plywood mill—Holzwerke Linz Aktiengesellschaft, Linz/Donau, Stadthafen, Bechen 1, Upper Austria. It is provided with the latest machinery and has a production capacity of 15,000 cu. meters years. USA-ERP-credits provided the founders with the help.

This new mill peels all the valuable species of Austrian timber, such as beech, poplar, pine, larch, fir, oak, nut, elm, maple, pear and cherry. Foreign timber kinds are purchased from Equatorial Africa, first of all Okoume, Limba and Colom.

The products of Holzwerke Linz Aktiengesellschaft are consumed mostly in Austria itself. Exports go to U. K., Belgium, Holland, Greece, Egypt and the Western Asia, also Canada. The US business is just now beginning. Small deliveries suited the buyers and led to repeat orders.

Import of plywood into Austria is now on a sporadic basis.

Swedish Outlook Good

(Continued from page 150)

true that the prices have been stable and even improved somewhat during 1954 but unfortunately also the cost of manufacturing is way up, along with log prices.

Mainly pine is used for the plywood manufacturing in Sweden. About half of the total production goes for domestic consumption, the balance to various foreign markets. The freedom from import restrictions in the plywood trade in Great Britain announced from March 1, 1954, naturally increased the export figures to that market.

The number of mills is unchanged. In Sweden, as already in USA, there is a growing interest for the use of plywood in residential and certain other constructions where pine plywood has proved most useful, and the proportion of Exterior has increased.

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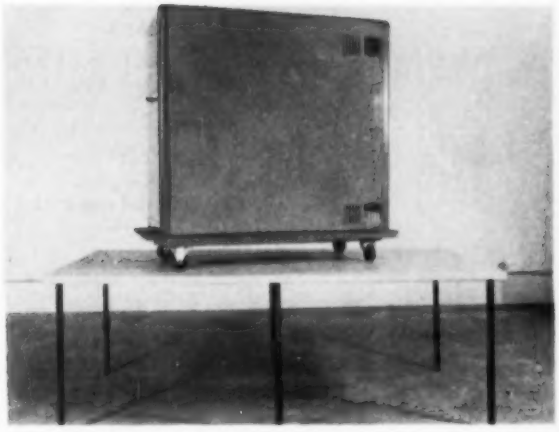

HERE'S HOW CASCADE Plywood Corp. illustrates the strength of its new Lebanex panels. The 1200-lb. stove which is perched on the center of this table causes no deflection.

TWO EXAMPLES of Cascades Plywood Corp.'s new "Lebanex" are shown above. These "IM" faces are particularly hard and dense and are recommended for industrial uses, such as table tops.

"Lebanex" Specialties Tailored for Various Industrial Uses

• Cascade Plywood Corp. has combined hardboard and plywood into some highly engineered specialties that are readily adaptable to many custom-made industrial uses. These are marketed under the name of "Lebanex" in four different grades.

Grade EM is moisture resistant and made with thermo-setting phenolics, IM has a hard, dense face and is made with protein adhesives, ER is designed to take high-pressure laminates in a second pressing and IR is designated for general interior use, such as in cabinet work.

Cascade, with a mill at Lebanon, Ore., offers an additional specialization whereby users who have unique end-use for Lebanex can obtain engineering advice.

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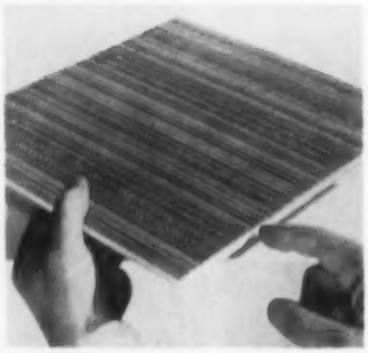

KALABORD is a ⅛" paneling of striated hardboard permanently bonded to a plywood base. This textured specialty is made by Columbia Plywood.

Striated Hardboard Featured In 2 Columbia Plywood Panels

• A paneling surface with wearing qualities of hardboard and attractiveness of natural wood color plus modern textured surface is found in "Kalabord" and "Kalatex," manufactured by the Columbia Plywood Co. of Seattle, Wash., with plant at Kalama.

Kalabord is a hardboard surface bonded under pressure to a two-ply plywood backing, forming a strong, sturdy paneling ⅜" thick. Kalatex on the other hand is a solid hardboard paneling ¼" thick, strong, light and flexible. Both Kalabord and Kalatex are textured by machine-cutting operation with vertical striations.

The qualities of the hardboard surfaces make the panels useful on walls that take rough wear. The striations in the hardboard surface resist marring and will not sliver or splinter.

A TV station in Seattle used Kalabord as a decorative and protective wall surface along stairways.

Long-Bell Has 4 Specialties

• One of the largest and most highly diversified organizations in the forest industries, The Long-Bell Lumber Co., specializes in four different items at its Longview, Wash., plant. Besides its regular grades of Int. and Ext., Long-Bell makes Texture 1-11, the rough CC grade which has been grooved for exterior (and interior) siding; it also makes "Handy Panels" in sizes 20x48, 24x44 and 20x44".

For the boat trade, they produce scarfed panels in both a standard Ext. grade and in a Boat Hull grade. They can scarf anything 4" wide or as long as 36'. In fact they could scarf longer than 36' but have never been called upon to do so.

Long-Bell's fourth specialty is the beautiful and decorative Idaho White Knotty pine panel. While they turn out Int. and Ext. Ponderosa pine plywood, they consider it a regular item.

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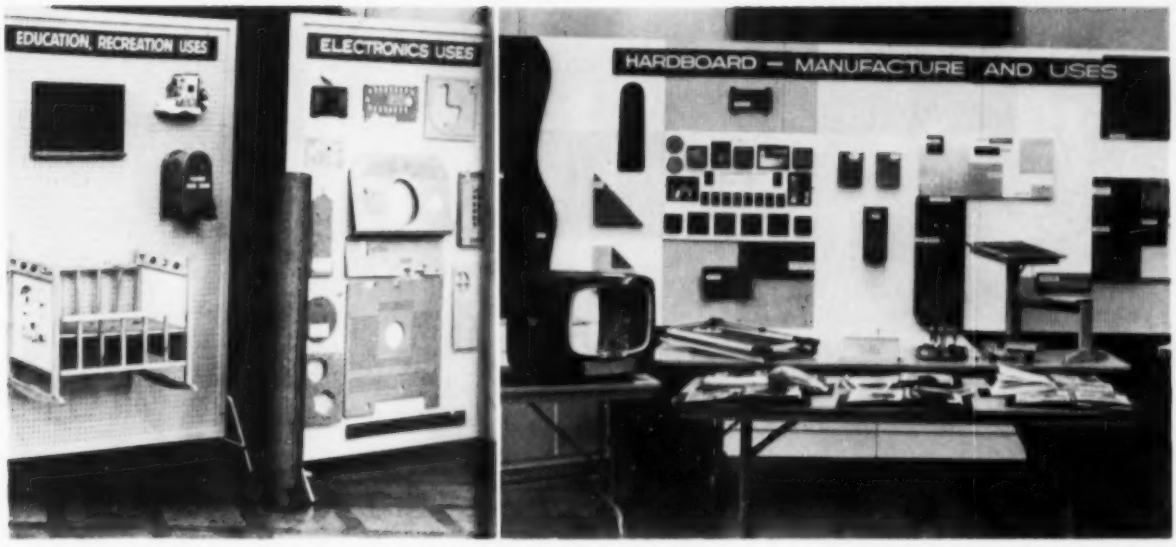


USE OF HARDBOARD HAS GROWN to such an extent that it is now found in nearly every industry in some way or another. The above photos depict part of a display assembled by the Hardboard Association recently as part of its effort to get hardboard reclassified as a wood product in the tariff schedules of the U. S., rather than as a paper product. Hardboard's versatility is key to even more widespread use in the future.

Hardboard Is Still Growing

Not only in the volume of production but also in the number and variety of products and uses

RECONSTITUTED-WOOD panels continue to set new styles in homes, furniture, in the construction field and in the spectacular field of fabrication. This industry, currently considered the fastest growing segment of the forest products field, is expanding in production volume and in number of panel products, including some items not previously available commercially.

This hard-panel field, commonly referred to **hardboard,** as a general classification, consists of three widely recognized board types: hardboard, particle board and flakeboard. And, there are combinations and variances of types. In this hardboard section is a special feature outlining and illustrating the various hard panels and suggesting a possible adoption of more or less "standard" industry terms. The field of hardboard is now so large that some declaration of terms is needed, not only for the technical man and the layman but also for the benefit of the general public, i. e. contractors, home owners and the do-it-yourself fans, and retailers. Readers are urged to give this article, prepared by a consulting engineer, their close attention.

ONE COMMON MEETING ground is that hardboard, regardless of which particular brand of board, is **wood.** As such it appeals greatly to the public. The executive director of the Plywood Research Foundation, which originated the semi-dry hardboard process, told THE LUMBERMAN that one of the trends in plywood specialties is to keep the panels looking like wood. This same line of thought is uppermost in the mind of the makers of several new flake boards, which above all else, emphasize the beauty and texture of wood.

Yet, the U. S. government tariff schedules have for years classified hardboard in the category of paper products. It has been one of the major activities of the new Hardboard Association to convince Congress that it should enact special legislation to reclassify hardboard to status as a wood product. Clear and concise summation of the Association's stand was made by Armin Elmendorf, consulting engineer in the hardboard field, who stated:

"**BEING MADE SOLELY** of wood that has been taken apart and put back together, having a wood type bond between its component fibers obtained from the natural ligneous constituents of wood fibers, having high strength when wet, and having other physical properties similar to those of wood, being workable with tools used for fabricating wood, and being commonly used where the unique properties of wood have been found most useful, it must be concluded that hardboard is wood."

The growth of hardboard in the last decade is illustrated in statistical tables in this section; there is also to be found THE LUMBERMAN's annual compilation of known all commercial board plants in the western hemisphere.

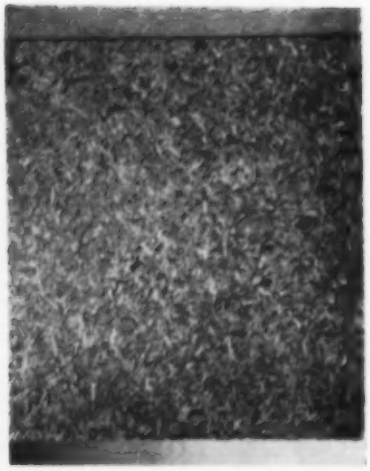
The Weyerhaeuser-Stanford Research report indicates a 16-fold increase in consumption of the rigid, hard panel in 1953 over 1929. Furthermore, the study indicates continued expansion in panelboard of this type through 1975, end of the period considered. For every 1,000 square feet of this type board used in 1952, 3,050 square feet will be used in 1975. Of the anticipated output, more will go for construction than any other usage, accounting for some 42 percent of the 1975 production. Furniture was the largest user in 1952, taking 32.5 percent of the production.

SOME OF THE NEW producers make board for specialty uses, the range extending from about 100 percent household to wholly industrial applications. Manufacturers of "regular hardboard" have widened use application of their products by specialty processing.

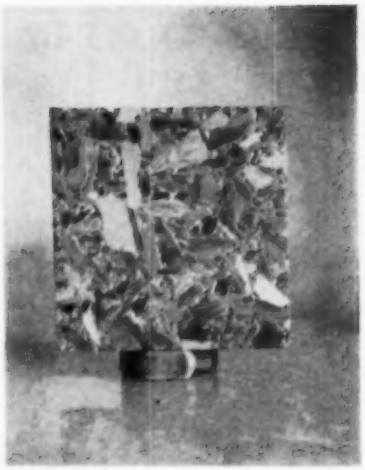
The development of melamine-plastic surfaced panelboards further diversified application, particularly as decorative laminates for tables and counters, both household and commercial. Through use of printed wood grain overlays the panels successfully entered the bedroom and living room furniture line.

Hardboard

THREE PARTICLE boards are pictured atop this page. Above is an example of "fine" board.



MEDIUM PARTICLE board. With multi-opening press can produce 40 tons of board daily.



COARSE PARTICLE board makes a handsome panel for decorative uses in offices, homes.

As Activities in Board Field Increase....

Set of workable definitions is offered by engineer for better understanding

DALE L. SCHUBERT

IN THE PAST FEW years a tremendous amount of development work has been carried on in the "chipboard" field by a number of organizations, which has resulted in several profitable methods of economically utilizing wood material that has otherwise been burned or destroyed. At the present time several of these developments are in use in panel-producing plants, and it appears more will be starting up soon.

So far boards have been known as "chipboard," "particle board," shavingboard" and by other names, and in many instances it has not been clear just what is meant by the different terms; consequently there have been many misunderstandings and difficulties in visualizing the exact character of each board.

It is the intention in this article to clarify the situation as much as possible and describe the different types of boards, and to propose to the industry standard terms which will give a basis for a mutual understanding when discussing the various types of boards.

I. Particle Board

This term covers boards made from chips, hogged wood, sawdust, planer waste and in general, particles that have not been cooked and defibrated. Ordinarily if particles are not cooked and defibrated that is the determining factor by which hardboard may be differentiated from the Particle Board, as hardboard in nearly all cases has a cooking and defibrating or pulping operation.

Since this article does not cover hardboard this type of board will not be included in the following description.

Particle boards are commonly used as core material, e.g., in furniture and small doors, requiring a product of ⅜" to 1¼" thickness, specific gravity of 0.50 to 0.70, and modulus of rupture in the range of 1,500 to 3,000 psi. Additional strength and attractive finishes may be provided by veneer surfaces. Products of this nature are commonly referred to as "chipcore."

CHIPS ARE DRIED to less than 12% moisture content (dry basis) and screened to remove large particles and fines. The drier is usually oil-fired. From 4% to 8% binder is added at the mixture.

From the mixer the chips are conveyed to the chip felter, which spreads them evenly on the moving cauls. The loaded cauls pass to the "prepress," a device for compacting the chips so that they form a coherent mat strong enough for the loading operation and thin enough to pass into the press openings. The loader, when it has accumulated enough for ten loaded cauls, (in case of 10 opening press) charges the steam-heated press. The cauls, with cured boards, are removed by the unloader. The press cycle of loading, curing and unloading requires approximately 15 minutes for ¾" board.

After unloading, the boards are separated from the cauls and sent through the finishing operation of trimming and sanding. The cauls are then returned to the chip distributor for recirculation. Plant production, with a 15 minute press cycle, will be approximately 1,280 sq ft of ¾" board per hour with 4x8 press. At a specific gravity of 0.65 this would be 3,252 lbs per hour or approximately 39 tons of finished board per day.

II. Shaving Board (Solid)

Shaving board is produced in an operation similar to the above-described Particle Board except, as the name indicates, somewhat larger shavings are used rather than the hammermilled or hogged material. Solid shaving boards may be used as decorative panels and are useful where thinner boards are practical. Shaving boards may be identified ordinarily by the long flaky surface and also by the lack of voids on the surfaces and edges.

III. Combination Particle and Shaving Boards

On this type of board shavings are ordinarily used on the surface, and other coarser but shorter materials are used as the core or center portion. Again, as in the previously mentioned shaving board, the surface is usually without voids and the board may be identified by the coarse particles in the center.

IV. Extruded Boards

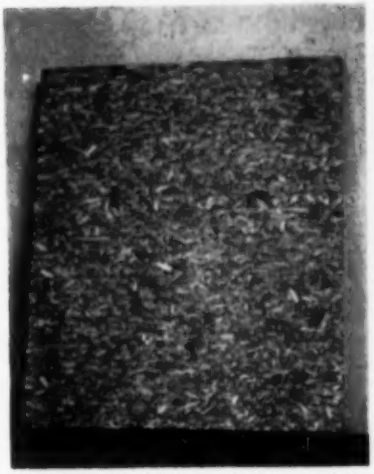
Extruded boards are ordinarily made from a fairly coarse particle and

Mr. Schubert is manager of the Industrial Development Co., designers and consulting engineers in the hardboard and reconstituted-wood board field.

Hardboard

SHAVING BOARD. Above is Long Bell's "Flakewood" introduced in 1954.

U. S. PLYWOOD'S "Novoply", combination particle and shaving board, has wide range.



EXTRUDED BOARD has had great popularity in Eastern U. S. made of fairly coarse particle.

....A Clarification of Terms Is Needed

extruded by means of a reciprocating ram or rotating screw, which presses the particles between two heated platens or dies. Ordinarily this board may be identified by the way the particles are positioned in the board which is usually crosswise with the thickness of the board.

V. Chipboard

"Chipboard" has been defined in "Manufacture of Pulp & Paper," by the Joint Text Book committee as a term referring to a variety of inexpensive board made on a multicylinder machine from mixed paper. Since this type of board is out of the scope of this article we will no longer use this term to classify particle board, although it should be understood that this is a common term used in the particle board field.

It appears now that the commercially available boards, commonly discussed in the board industry, fall under the following classifications:

- **I. Particle board**
  - **A. Fine particles**
    - **1. Lebanite type**
  - **B. Medium particle**
    - **1. Prespine type**
    - **2. Miner-Hofft type**
  - **C. Coarse particle**
    - **1. Hughe's type board**
- **II. Shaving board**
  - **A. Flake board (Long-Bell type) (described as board made from flakes produced by cross-grain cutting of solid wood)**
- **III. Combination particle & shaving board**
  - **A. Novoply type**
- **IV. Extruded board**
  - **A. Chipcraft type**
  - **B. Lane core board type**

In order to further identify different boards, notice the actual photographs above. As readily seen it is rather difficult to distinguish between the particle and the shaving board from the inspection of the flat surface, however a close inspection will show a fine and more compact edge on the shaving boards.

There has been no attempt in this article to cover details of overlays and the various brand-name boards such as "Welchboard," "Kalabord," "Plyloy," etc. While they are an important part of the specialty board field, they do not come under the scope of this article.

Condensed Glossary of Common Terms Used in Describing Boards

BAUERS—Double disc attrition mills used as pulp refiners in the paper industry or wet process, and as wood defibrators in the dry process.

BINDER—Usually a thermosetting synthetic resin distributed throughout, forming a light coat on the fibers or particles. The resin is set under heat and pressure and binds the fibers or particles.

CAUL—Polished steel plate against which the board is cured in the press, giving a smooth impervious board surface.

COMMERCIAL STANDARDS—The following standards are commonly used for hardboards: modulus of rupture, density, water absorption, treated or untreated.

DENSITY—Density is weight per unit volume, examples: gr/cc, pounds per cubic foot.

FIBER—The wool-like material to which wood is reduced for hardboard manufacture.

GLUE—Phenolic and urea glues are among the most common.

HARDBOARD—A fiber board having a density in the range of 0.8 to 1.2.

NOVOPLY—A brand-name shaving board with a course particle core manufactured by U. S. Plywood Corp.

PILOT PLANT—A limited production plant used for the purpose of testing a process or variations on a process. A pilot plant represents a stage between research and production.

REFINERS—Machines such as the Bauer that are used to reduce wood or pulp to the fibrous form required for pulp or hardboard manufacture.

RESIN—The synthetic binder used in hardboard and particle board, e.g., phenol formaldehyde, urea formaldehyde.

SEALER—A coating applied to the board surface to prevent penetration of water or of any further coating which may be applied.

SEMI-DRY PROCESS—A board formed from a suspension of fiber in air. Water content is normally less than 100% dry basis.

SPECIFIC GRAVITY—Ratio of board density to density of pure water.

TEMPERED BOARD—A board that has been treated, usually with hot oil and baked to improve its strength and water absorption properties.

WET PROCESS—A board formed from a suspension of fiber in water by a means similar to that used in the paper industry.

Hardboard

Hardboard Makers Mark Greater Activity In Association in 1954

ONE OF THE FOREST industries newest organizations is the Hardboard Association which was formed in 1952 to promote the interests of the domestic producers of hardboard.

The member companies are: Chapman Manufacturing Company, Corvallis, Ore.; Coos Bay Lumber Company, Coos Bay, Ore. (Dant & Russell, Inc., Portland, Ore.); Forest Fiber Products Company, Forest Grove, Ore.; Masonite Corp., 111 W. Washington St., Chicago, Ill.; Oregon Lumber Co., Dee, Ore.; Superwood Corp., 14th and Waterfront St., Duluth, Minn.; and the U. S. Gypsum Co., 300 W. Adams St., Chicago, Ill. The officers of the Association are: Paul B. Shoemaker, president (Masonite); K. V. Hafner, vice-president (Superwood); L. J. Roedel, secretary-treasurer (Oregon Lumber Co.); A. J. Watt, assistant-treasurer (U. S. Gypsum). Donald Linville is executive secretary.

DURING 1954, the second full year of the Association's life, major activities included (1) The development and implementation of an Industry Promotional program, including exhibits in Home Shows, radio and television appearances, developing of projects utilizing hardboard in many applications, resulting in feature articles in leading magazines and periodicals. (2) Building Code Activities.

(3) Research activities, cooperating with Forest Product Laboratories; National Paint, Varnish and Lacquer Association, etc. (4) Efforts through the proper governmental departments to have Hardboard properly classified in the "Wood & Manufacturers of" Schedule for Tariff purposes. (5) Continuation of activities with respect to Swedish & Finnish Anti-Dumping Petitions.

The program of 1955 proposes a continuation and the general broadening of our major activities, particularly with respect to the promotional program and code activities. The Technical Committee is presently assisting the General Service Administration in a revision of Federal Specification LLL-F-311 with respect to hardboard and the same Committee is at work on the development of a Commercial Standard for hardboard.

Production and Shipments, All Types* Hardboard, U. S.

(Square ft., ⅛" basis)

Year	Production	Shipments
1946	552,466,000	541,892,000
1947	760,075,000	724,466,000
1948	910,368,000	886,310,000
1949	514,642,000	505,422,000
1950	954,437,000	935,113,000
1951	956,801,000	911,935,000
1952	1,108,869,000	1,083,557,000
1953	1,181,815,000	1,130,000,000
1954 (Jan.-Sept.)	(not available)	967,418,000

*Includes all types and thicknesses.
Source: Hardboard Association.

Production of Hardboard By Countries of the World; U. S. Leads, Sweden Is No. 2

(Suggested formula for converting to square feet basis: 1 metric ton = 2939 sq. ft.)

	1951	1952	1953
United States	312	395	435
Sweden	254	186	215
U.S.S.R.			70
Germany (Western)	88	63	51
Australia	26	36	49
Canada	59	47	49
Norway	46	39	47
Finland	54	35	46
France	39	38	44
Belgium	24	30	34
Italy	33	34	34
Czechoslovakia		15	20
Germany (Eastern)		10	20
Poland		15	20
United of So. Africa		15	20
United Kingdom	14	12	18
Austria	14	13	17
New Zealand	8	11	12
Mexico		10	10
Japan	9	9	7
World Totals	**990**	**1120**	**1270**

Source: United Nations Food & Agriculture Organization. Note—World Totals include production for a few small producing countries not shown above.

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FLAKEWOOD Is Made Of Millions of wood fibers and flakes, sealed tightly together under heat and pressure. Broader flakes of a single type of wood make up the smooth, level surface. And, FLAKEWOOD is available in a choice of pine, fir, cedar or maple — in 4' x 8' panels or 12" and 16" squares, ¼" thick. Available in cars with other products.

For A Free Sample Of FLAKEWOOD and complete technical information, see your local Long-Bell representative—or write direct to our Kansas City, Missouri or Longview, Washington office, Factory Sales Dept.

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Established 1875 — Kansas City 6, Mo.

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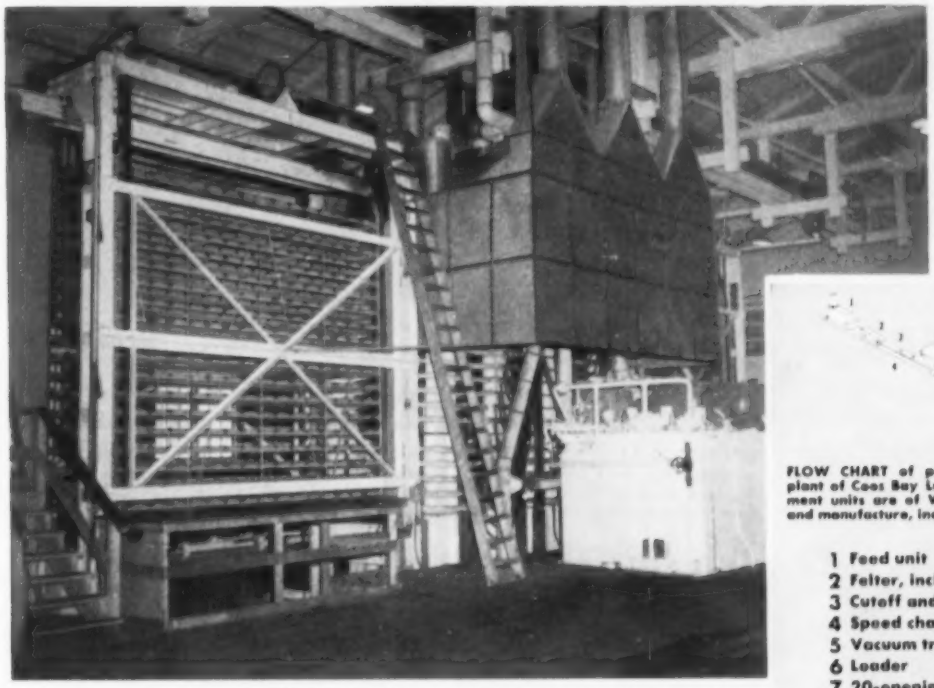
WASHINGTON presses and accessories offer "packaged" hardboard production line

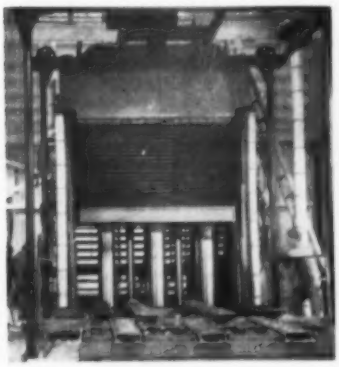


Above is a partial view of the hardboard processing operation at the plant of Coos Bay Lumber Co., showing the 5,454-ton Washington hardboard press and unloader, with press pumping unit in foreground. These and other principal units were engineered and built by Washington Iron Works in cooperation with Coos Bay's technical staff.

FLOW CHART of processing steps in hardboard plant of Coos Bay Lumber Co. All principal equipment units are of Washington Iron Works design and manufacture, including

1 Feed unit
2 Felter, including precompressor
3 Cutoff and trim saws
4 Speed changer
5 Vacuum transfer
6 Loader
7 20-opening, hydraulic hot press
8 Unloader
9 Board and caul transfer

WASHINGTON IRON WORKS is the leading western manufacturer of forming stage equipment for hardboard processing. From the feed unit to the unloader and transfer unit Washington designed and built equipment can give you that competitive "edge" in increased production, precise control of quality and reduced operating and maintenance costs.



The 850-ton Washington hydraulic plywood press shown above has been in operation for three years at the Crescent City, California plant of Paragon Plywood Co., division of Peninsula Plywood Co.

Washington hydraulic hot plate presses, the key unit in hardboard production, are available in any capacity to meet requirements, in platen sizes to 5′ x 24′, with any number of openings.

All accessory equipment, precompressors, loaders, unloaders and other units are designed and built for efficient integral operation with other Washington equipment.

Operation of Washington hardboard processing equipment is completely automatic with pressure cycle control and timing coordinated with felter and loader operation.

Washington Iron Works also manufactures hydraulic hot presses for plywood and door production, hydraulic presses for pulp baling and basic equipment for efficient logging, including the self-propelled Washington "Trakloader" for combined yarding and loading. Long experience with the specialized needs of wood products producers lies behind all Washington hardboard, plywood and logging equipment.

Get the full story!

A factory field engineer will be glad to supply you with full particulars on standard models of Washington presses and other equipment. He will explain how "integral-engineering" of production-line equipment can cut installation and processing costs. No obligation, of course. Write or call today.

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BURNING
DOLLARS

Start
SELLING
CHIPS

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QUALITY PRODUCTION SIZE CHIPS
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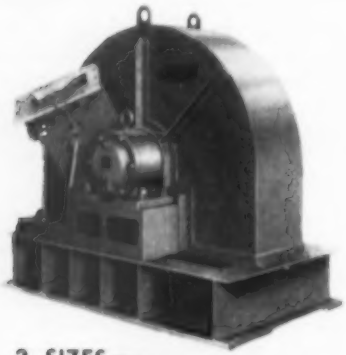
CORES

MECHANICAL FEED
WASTEWOOD CHIPPER



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WASTEWOOD CHIPPER

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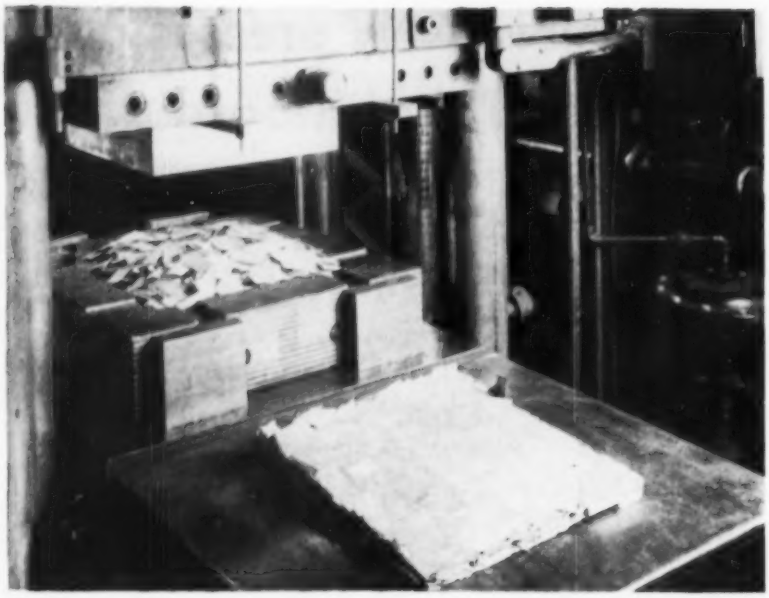


BEFORE AND AFTER. In the 20x20-inch hot press mold are wood particles loaded and ready to press. The newly pressed particle board with flake top (rt.) will be used in any one of numerous experiments to determine how properties vary with (1) differences in amount of resin used and (2) size and shape of particles and (3) "modified" resin binders.

What the Madison Lab Is Doing

USFS researchers have many board projects underway on two processes

EDWARD G. LOCKE

AT MADISON, Wisconsin, the U. S. Forest Products Laboratory's research pertaining to building fiberboards falls into three natural divisions. Two are concerned primarily with process variables and the third with uses and properties. Research involves both dry and wet processes.

Dry Processes

Current work in particle board research is divided into three classifications. Work done under the first is concerned with fundamental research on particle size and shape and its effect on board strength and other physical properties. One project of this classification, nearing completion, concerns board density variation as affected by the method of particle lay-up prior to hot pressing. Density variation in hardboards directly affects board stability and strength. A major investigation of the effect of particle size and shape on strength and physical properties was completed during the past year.

In work concerned with the effect of resin content on board strength properties, a series of experiments was completed on boards made of one size of particle and ranging in resin content from 1 to 24 percent. The relations between strength and resin content developed from that study included variation in modulus of elasticity, modulus of rupture, shear strength, and toughness with various resin content values. Similar relations would be expected for other types and sizes of particles, although actual strength values would, of course, differ.

The third classification of work on particle board is concerned with developing and modifying resin binders. Our current work in this project is the investigation of bark and wood tannins for possible use as board binders or as extenders for other glues. Because of present-day high resin costs, much interest is directed towards developing low-cost binders.

Wet Processes

Research on wet-process hardboard being conducted at the Laboratory includes:

1. The effect of yield of pulp on the strength and other physical properties of wet-felted screen-back hardboard.

2. The effect of heat treatment on the strength and other physical prop-

Dr. Locke is chief of the Division of Derived Products at the U. S. Forest Service Forest Products Laboratory, Madison, Wis.

erties of wet-felted screen-back hardboard.

The purpose of this research is to evaluate two widely different hardwoods, red alder and oak, and to develop a technique for evaluation of any wood for use in wet-felted, screen back hardboard. A laboratory-model Asplund defibrator is being used to prepare the pulps, because it appears to be the simplest laboratory means of preparing a variety of pulps for hardboard stocks.

Gluing Properties

Hardboards are finding increased use in applications in which this material is glued to wood or to itself. Hardboard manufacturers and some glue manufacturers have recommended certain glues and gluing conditions for such work, but data on which these recommendations have been based are not generally available. Although the glues and gluing techniques developed for wood bonding may be used in many applications of hardboard, this Laboratory has found it difficult to answer some inquiries from commercial fabricators and the general public because of lack of adequate experimental data from a well-planned study of the problems of gluing these hardboard materials. For this reason, the Laboratory has recently started a program of research designed to yield information needed for proper gluing procedures for these materials.

Production and Shipments, Untreated Hardboard, U. S.

(Square ft., ⅛" basis)

Year	Production	Shipments
1946	144,028,000	154,425,000
1947	157,181,000	167,211,000
1948	170,845,000	180,344,000
1949	132,240,000	122,992,000
1950	197,453,000	218,191,000
1951	227,840,000	216,155,000
1952	306,821,000	283,334,000
1953	257,936,000	259,603,000
1954		
(Jan.-Sept.)	(not available)	204,245,000

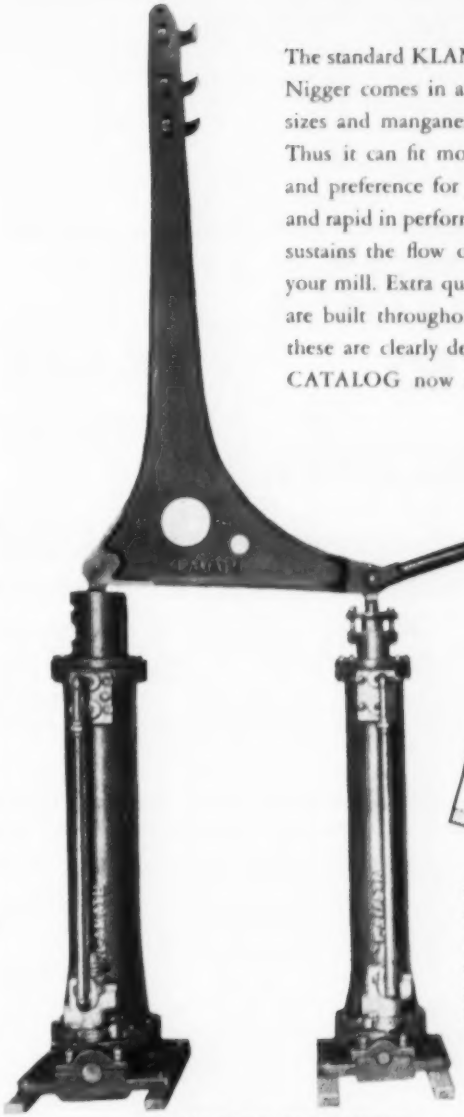
Source: Hardboard Association.

American Lumberman Visits German Board Plants

• One of West Germany's modern fiber board plants was visited last year by Otis R. Johnson, of San Francisco, president of Union Lumber Co., in company with several government officials, the U. S. Dept. of Commerce reports.

"The Atex Holzfaserplattenfabrik (at Elsenthal/Grafenau), a modern fiber board plant employing 170 persons, produces boards with special designs, finishes and decorations, in addition to the standard fiber board. It also manufacturers a termite-resistant fiber board which is finding a ready market in Africa."

GREATER PRODUCTION
...DAY AFTER DAY



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Hardboard

New Hardboard Press at Pullman, Washington, Will Help Manufacturers Solve Problems

GEORGE G. MARRA

A LARGE STEP was taken in 1954 by Washington State College toward better support for the hardboard movement in the Northwest. A new laboratory was built to house all research activities on wood composition products and a new 1200-ton, 50 x 50" hardboard press was purchased to expand the range of research from laboratory scale to pilot-plant scale.

Its facilities are available to private industry, such as forest industries producers, and to local, state, and federal agencies and associations.

The scope of the program contemplated for this laboratory includes all types of board processes such as wet or dry fiber hardboard, granular hardboard, coreboards and flakeboards. A 24-inch, double-disc Bauer grinder has been set up in the new laboratory adjacent to a rotary digester which permits the production of a variety of fiber types. Although typical wet process fibers can be produced in quantity with this equipment, experimentation on these will be limited for the present to 8 x 8" boards.

EQUIPMENT FOR evaluating experimental boards has been augmented to cover all important properties of these products. Latest addition is a device patterned after ASTM specifications for accurately measuring linear expansion of boards.

This new laboratory is a part of the Wood Technology Section of the Division of Industrial Research. Other facilities of the Division cooperating with or available to the Wood Technology Section include the chemistry laboratories, machine shop, sheet metal shop, foundry, engineering design laboratory, and temperature and humidity controlled rooms. The work of this Division is dedicated to the solution of industrial problems as well as those of a fundamental nature.

RESEARCH IN THE WOOD Technology Section during 1954 included both privately sponsored and state supported projects. The latter group included studies of test methods, particularly tension perpendicular to the surface, and the design and construction of multi-purpose laboratory equipment for hardboard research.

Especially noteworthy is a combination dryer and mixer now undergoing final modifications. Capable of handling relatively large batches of materials, this experimental machine can be used to raise or lower moisture contents with good uniformity and can also be used to mix either liquid or powdered additives. Another interesting project started in 1954 sought to develop a method of determining patterns of non-uniformity in boards without excessive cutting of test specimens. Success of this project may be determined during 1955.

Mr. Marra is head of the Wood Technology Section, Washington State Institute of Technology, Division of Industrial Research and is active in hardboard study and research.

Organizations Performing Research in Hardboard

Elmendorf Research, Inc., Chicago, Ill.
Forest Products Laboratory, Vancouver, B. C.
Forest Products Laboratories Division, Dept. of Resources and Development, Ottawa, Canada.
Forest Products Laboratory, U. S. Forest Service, Madison, Wis.
Johnson & Johnson, engineers, Portland Trust Bldg., Portland, Ore.
Oregon Forest Products Laboratory, Corvallis, Ore.
Washington State Institute of Technology, Pullman, Wash.

WOOD CHIPS BLASTED nearly one mile by RADER PNEUMATICS

Pope & Talbot Installs RADER High Pressure Pneumatic System

Latest company to join the many firms using modern RADER pneumatic conveying systems is Pope & Talbot, Inc., St. Helens, Oregon. Installed recently, the big RADER pneumatic system blows wood chips 4700 feet from the Pope & Talbot sawmill to the St. Helens Pulp & Paper plant. High pressure blowers are used to blast the wood particles through an 18-inch line, ending up with an 80-foot rise into the top of big storage silos.

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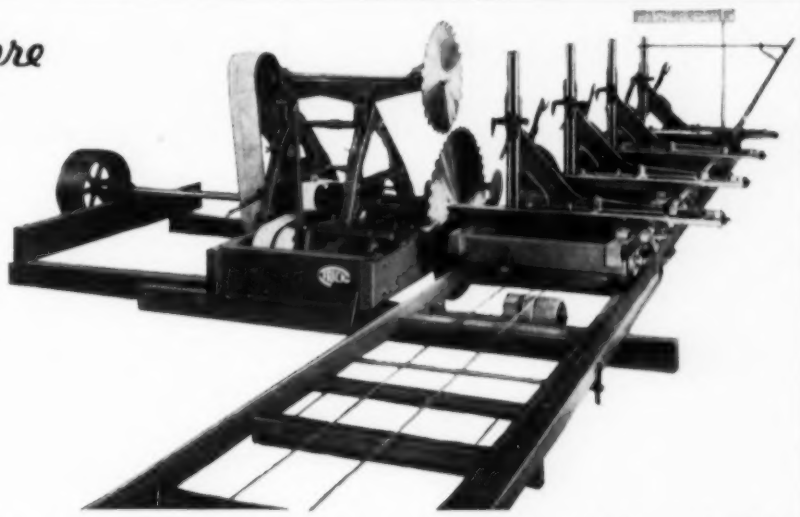

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The top illustration shows a bonding machine utilizing the shell molds produced in the machine pictured below. An 8" Model "D" NOPAK Cylinder advances and retracts the upper pressure plate which, in turn, applies the pressure, through pins and springs, required to seal the two halves of the shell mold before molten metal is poured between them.

The lower picture shows a machine which produces shell molds by the investment process, employing a 4" NOPAK Cylinder to operate the louver of the investment box containing the sand and resin mix which is deposited on the heated pattern. A 6" NOPAK Cylinder, visible in base, rotates the investment box 210°.

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Hardboard

36 Different Boards Tested

by Oregon laboratory in effort to add to fundamental knowledge of hardboard

J. R. STILLINGER

AT THE PRESENT time the Oregon Forest Products Laboratory, there are five active research projects which deal directly with various aspects of commercial hardboard evaluation. Following is a description of these five projects:

1. "Comparison of Several Indices of Toughness and Their Correlation with Other Physical Properties in Commercial Hardboards."

This project includes the testing of 36 different types of commercial hardboard involving the ⅛- and ¼-inch thicknesses, treated and untreated boards and low density utility boards. Seven different toughness test procedures were used on material had been conditioned to a moisture content equilibrium at three humidity levels, namely, 30, 65 and 85%. In addition to the toughness tests static bending, hardness, stiffness, and residual strength tests were performed. The primary objective was to determine the one toughness test which would yield the most reproducible test results and furthermore would be well correlated with other physical properties.

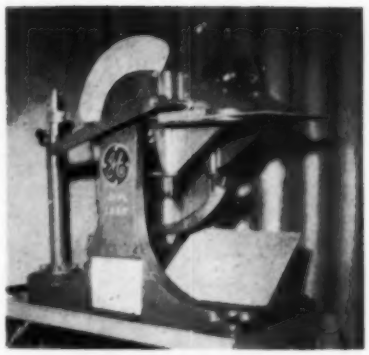
2. "Relationship of Moisture Content and Flexural Properties in Commercial Hardboards."

This project, like the previously described one, covered some 36 types of commercial hardboard. The objective of this study was to determine the moisture content, modulus or rupture, modulus of elasticity, work to 0.2-in. deflection, and work to maximum load. Different moisture content levels were achieved by conditioning the test material at several relative humidities from 10 to 90 per cent.

3. "Relationship of Specific Gravity and Flexural Properties in Commercial Hardboards."

It has been reported in previous research efforts that the relationship between specific gravity and the flexural properties of hardboards varies considerably for different manufacturer's products, different thicknesses and different treatments. Since no information was available concerning these relationships for the majority of commercial hardboards, it was decided to include all of the commercial hardboards in this study. The ability to more accurately estimate these relationships should enable industry technicians and research workers to have greater confidence in making adjustments for differences in specific gravity.

Mr. Stillinger is Research Coordinator, Oregon Forest Products Laboratory, Corvallis, Ore.



TESTING HARDBOARD to determine the strength, hardness, toughness, elasticity, and other physical properties is the job of such machines as this one at the Oregon Forest Products Laboratory. Notice ruptured center of the lower board.

4. "Effect of Cyclic Humidification on the Moisture Content and Dimensional Stability of Commercial Hardboards."

Little information is available concerning the effect of humidity changes on the properties of moisture absorption and desorption, linear expansion and contraction and thickness swelling and shrinking in commercial hardboard. This particular project was designed to determine the moisture gain or loss and dimensional changes in 14 different types of commercial hardboard when subjected to a repeated relative humidity cycle of 30 to 90 to 30 per cent. A secondary objective was to determine the presence or absence and degree of permanent set resulting from cyclic humidification.

5. "The Effects of Soaking and High Humidity on Dimensional Changes in Commercial Hardboards."

This research project was designed to furnish a comparison of results from the water soaking of hardboard and exposure to high relative humidity. If the correlation is high between the standard water absorption test and a humidity test, it would be very helpful to the industry technician in conducting his daily quality control work. The primary objective is to determine the changes in water absorption, linear expansion, and thickness swelling in 36 types of commercial hardboard during various water-soaking periods. The same information will be determined after the test material has been exposed to an atmosphere of 85 deg. F and 90 per cent relative humidity over various periods of exposure.

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TOP: The Heinola hardboard mill in Finland.

BOTTOM: Attractive exhibit at a Finnish fair.

Doughty Finns' Campaign Pays Off Handsomely in '54

DAGE BRUNOW

THE MOST AMAZING feat in the hardboard industry of the world during 1954 perhaps occurred in Finland, long one of leading hardboard nations. To make up for lost overseas markets, the Finns launched a campaign at home to make the public "hardboard-minded." It was so successful that the home market doubled within a year; in fact, home consumption has increased 1500% in five years.

It is a typical feature of the hardboard industry in Finland that most plants operate in conjunction with sawmills or plywood factories, using their waste.

TECHNICALLY the Finnish mills have been built similarly to earlier plants in other countries. With one exception the wet-process method is employed.

The wallboard industry is young but has developed rapidly. First in the field was the then American owned Insulite Co. of Finland who installed a hardboard press in 1937. Others followed suit during and after the war, and now 5 companies operate 6 presses with an aggregate annual production of about 65,000 metric tons.

UNTIL RECENTLY little hardboard was used in Finland, and practically the whole production was exported. Although more than half of the production is still sold abroad, the export figure shows a declining tendency owing to a steadily growing demand on the home market. The export is mainly directed to Europe which takes about 75% of all exported hardboard. The principal market is the U. K. but on the Continent, Denmark, Holland and Belgium have been good customers. Originally overseas markets like Australia, South Africa, and South America were very important customers, but owing to the growth of their local hardboard industry export to these parts has practically ceased. The export to U.S.A. has been negligible. Only 3–5,000 tons a year have been sold, most of it to the East coast.

The active young hardboard industry now plays an important part in the economic life of Finland.

Finland Hardboard Exports, Metric Tons

	1952	1953	1954 (11 months)
Europe	17,873	19,725	23,602
U.S.A.	3,010	4,917	2,327
Other overseas	6,195	3,215	7,640
Total	27,078	27,857	33,569

Mr. Brunow is with the sales dept. of Enso-Gutzeit Osakeyhtio, Kotka, Finland.

Better Hardboard Is Purpose Of Investigative Research Underway at Vancouver

• The Vancouver, B. C., laboratory of the Forest Products Laboratories of Canada, has undertaken some investigations of research techniques with the idea of providing new methods to aid studies on strength and other properties of hardboard.

Because step-by-step improvements in hardboard quality have been hindered by insufficient knowledge regarding hardboard properties, the first work here in that field began in 1954. Purpose was to develop a method by which the strength of the material at any point in a hardboard sheet could be determined.

The method tried, which appeared to be workable, and which has yielded most interesting results with the hardboards used for investigation purposes, was to reduce the hardboard sheet to a number of thin layers of equal thickness. The strength properties of these thin layers were then studied by the use of conventional methods. In this instance, a ¼" sheet was considered as being composed of eight layers each 1/32" thick. The sheet was divided, in effect, into eight smaller sheets. From one of these sheets 7/32" was planed from the back, leaving a surface lamination 1/32 inch thick (lamination number 1). From the next sheet 1/32" was planed from the face and 6/32 inch from the back leaving layer number 2. Following this pattern, a sheet of hardboard 1/32 inch thick was prepared for each of the eight 1/32 inch layers of the quarter-inch board.

USING STANDARD TEST methods, the following information was obtained for each of these 1/32 inch layers from face to back of the sheet; also for the whole sheet: (1) specific gravity; (2) burst strength; (3) tensile strength parallel to the surface of the sheet in each of two directions; and (4) tensile strength perpendicular to the surface of the sheet.

For the purpose of demonstrating the practicability and usefulness of this method, hardboard manufactured by three processes was examined: the wet-flow, the wet-batch, and the semi-dry. Both high and low resin-content boards, from each of six manufacturers, were included in the sample. The results were interpreted, very broadly, as follows:

1. With high quality workmanship and machinery it is practical to study the strength properties at any desired point within a sheet of hardboard by use of this method.
2. All of the hardboard sheets used for purposes of the investigation were shown to be unhomogeneous from face to back. This lack of homogeniety was illustrated by each of the physical and mechanical properties studied. The pattern was different for each of the three processes studied, but was uniform within each process, and especially within the product of each company. The differences referred to were not of the "error" type, but followed a pattern which was interpreted as resulting from the manufacturing process.
3. By correlating process variables, such as the percentage of additives, the degree of refining, or tempering, to mention a few, with changes in the strength pattern from face to back of the sheet, it should be possible to study more effectively the results of these manufacturing variables upon the final product and then to use this information to improve hardboard quality.

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Hardboard

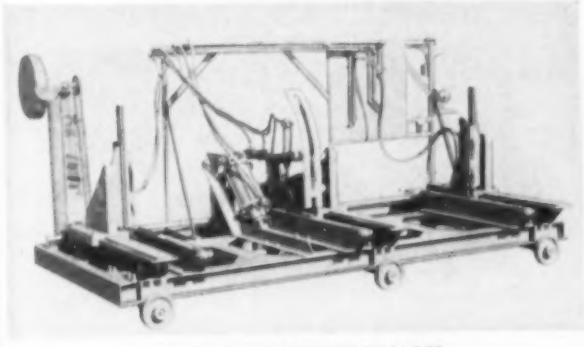
Western United States & B.C. Hardwood Plants

Firm Name & Year began Production	Plant Location	Annual Production Capacity sq. ft. ⅜" basis or as noted	Key Personnel	Details on Process and Products
Anacortes Veneer, Inc. 1952	Anacortes, Wash.	24,000,000 "	G. N. Arneson, gen. mgr., A. C. Carlson, Supt.	"Armorbord" hardboard with standard & tempered, Using semi-dry process developed by Plywood Research Foundation.
Canadian Forest Products Ltd., Pacific Veneer Division	New Westminster, B.C.	52,000,000 "	J. G. Prentice, pres., D. M. Zilm, gen. supt., G. Burgon, hardbd. supt.	"P.V." Brand hardboard using Chapman process.
Cascades Plywood, Corp.	Lebanon, Ore. General office Portland, Ore.	20,000,000 "	C. W. Fox, pres., B. V. Hancock, exec. V.P.; A. E. Anderson, plant mgr.; Louie Bemetz, supt.	"Lebanite" hardboard. Dry process. This board is used with plywood, also as a punched hole product.
Chapman Mfg. Co. 1946	Corvallis, Ore.	24,000,000 "	Arthur Vanden Sys, mgr.; Hugo Schmidt, supt.	"Oregonbord" hardboard. Chapman process ("wet batch") Producing standard and tempered smooth board; "Rib-tex" a striated board; "Corru-tex" a blond corrugated board; "Perf-O-Tex" a perforated board.
Chapman-Woods, 1955	Philomath, Ore.	50,000 sq ft. per 24 hrs., ⅜" basis	Ralph Chapman, developer of new process	Described as an entirely new product with specific gravity of about .6. A 3-ply product, with center of specially shaved wood surfaces of highly refined wood fiber. A waterproof oil-tempered board. Plant under construction, to be finished in July.
Chipboard Products, Inc.	Grants Pass, Ore.	——	Mabry Ogle, pres.	Plant not built, but Co. has been incorporated and announces it will use the Kriebaum process utilizing wood waste, employing 50 persons on 3-shifts.
Coos Bay Lumber Co. 1953	Coos Bay, Ore.	60,00,000 sq. ft., ⅜"	J. W. Forrester, mgr.; A. A. Wehrle, supt.	Hardboard by dry process. 28,281,000 sq. ft. produced in 1954, the 1st full year of operation. 1955 prod. expected to increase considerably.
Forest Fiber Products Co. 1949	Forest Grove, Ore.	60,000,000 "	Harold A. Miller pres.; O. W. Frost, gen. mgr.; G. E. Tower supt.; Keith Kruse, tech. dir.	Standard and temper-treated hardboards; Forest Tee-N-Gee panels; Forestex (striated hardboards); Forall—⅜, ½, ⅝, ¾" laminated panels for cupboards, door stock, sliding doors. Industrial specialties, punched hardboards.
Hu-Wood	North Sacramento, Calif.	5,000 sq. ft. per day	Fred Hughes, operator	Producing decorative panels from chipped mill leftovers. Has been in operation over 10 years.
Long-Bell Lumber Co. 1954	Longview, Wash.	Capacity: 35MSF ¼" per day. To be expanded to 80MSF by Dec. 31st	J. D. Leland, pres.; T. A. Deal, gen. mgr.; W. R. Kletsch, supt.; A. L. Mottet, res. dir.	Dry process based on company-developed cross flakes and fiber. Principal products "Flakewood", decorative wall board.
Masonite Corp.	Ukiah, Calif.	Capacity: 230,000,000 sq. ft. ⅛"	Wm. A. Cotton, V. P. & gen. mgr., C. H. G. Dixon, prod. supt.; C. R. Williams, plant eng.; W. G. Foster, process control supt.	"Masonite" Presdwoods using Masonite process. Large line of various thicknesses, finishes & surface figuration.
Montana Hardboard Co., Inc.	Missoula, Mont.	30,000,000 "	Gordon Lynch, mgr., pres.; J. M. McDorney, supt.	Hardboard. Plant to start construction May 1, 1955. Chipping at present, sending chips to pulp mill, Lewiston, Idaho.
Mt. Hood Hardboard & Plywood Co.	Estacada, Ore.	——	——	New company formed during 1954. No announcement yet as to start of construction.
Mt. Shasta Plywood & Hardboard Corp.	Gazelle, Calif.	——	R. S. Smith, Yreka, pres.; John Vai, Weed, gen. mgr.	Proposed plant would be built in mid-1955. Annual capacity: 100,000,000 sq. ft., both plywood and hardboard.
Oregon Fibre Products, Inc.—1954	Pilot Rock, Ore.	100,000,000 sq. ft. ¼" and ⅛"	E. C. Kerns, pres., A. L. Moltke, vice-Pres.; O. B. Eustis, gen. mgr.	Insulation board, hardwood, acoustical tile. A total of over 85 different items are produced. Sales through U. S. Gypsum Co. 1954 production in first year of operation: 41,000,000 sq. ft. on ½" & ⅜" basis. Current rate is 90,000,000 sq. ft.

Firm Name & Year began Production	Plant Location	Annual Production Capacity sq. ft. ⅛" basis or as noted	Key Personnel	Details on Process and Products
Oregon Lumber Co. —1951	Dee, Oregon	60,000,000 sq. ft. ⅛"	Chas. M. Hines, pres.; W. J. Runckel, mgr. & tech. dir.; Geo. Bethel, supt.	"Allwood" Standard and tempered hardboard and a line of several specialty boards. Wet process. Sales via Edward Hines Lbr. Co., Chicago.
Pack River Lbr. Co.—1955	Sandpoint, Idaho	50 tons or an estimated 78,000,000 sq. ft.	J. M. Brown, Jr., pres.; D. L. Haynes, vice pres. & chemical engr.; Glen Chronic, foreman	So-called "Starboard" using mill leftovers & Clark process. Plant expected to be completed and in operation by mid-1955. A "wafer-type" board.
United States Plywood Corp., Shasta Plywood Division	Anderson, Calif. Mailing address: Box 1688, Redding, Calif.	85,000,000 sq. ft. ⅛"	Gene C. Brewer, gen. mgr.; K. L. Morrow, prod. mgr.; W. C. Smith, plant mgr.; W. E. Marander, plant supt.	"Novoply" 3-ply construction. Outer skin is made of shavings, inner made of ground wood fibre. Made by Swiss process. Fred Fahrni, inventor. Finishes are redwood and light-finish fir or pine. Producing at rate of 60,000,000 sq. ft. ⅛" basis per year.
Syvanal, Inc.	Longview, Wash.	——	F. R. Smith, pres.; E. E. Anderson, vice pres.	Producing "Patchwood Hardboard", a decorative interior paneling faced with sliced veneers of various species, in thicknesses ⅛ to 1", 32" square. 4-opening hot press. Production of 2500 sq. ft. per shift during 1954.
Western Nu-Ply Corp.	South Bend, Wash.	15,000,000 " (hardboard only)	Plant purchased by Nu-Ply Corp. of Minnesota in Feb. 1955 for $700,000.	Production now underway, using hardboard equipment & plant of former Washington Hardboard Co. Making "Nu-Ply", using a wood fibre core and veneer face by Elmendorf process. Boards to be up to ¾" thick.
Weyerhaeuser Timber Co.—1955	No. Bend, Ore. Main office Tacoma, Wash.	11,000,000 sq. ft. ⅜"	J. P. Weyerhaeuser pres.; C. H. Ingram, gen. mgr.; R. D. Pauley, mgr. spl. prod.; A. O. Karlen, plant mgr.	Particle board plant, raw material from sawmill leftovers. Thickness, ⅜" to 1". 4x8' & special panel sizes.
Weyerhaeuser Timber Co.—1954	Klamath Falls, Ore. Main office, Tacoma, Wash.	90,000,000 sq. ft. ⅛"	J. P. Weyerhaeuser, pres.; C. H. Ingram, gen. mgr.; R. D. Pauley, mgr. spl. products; D. S. Troy, plant manager.; J. G. Robinson, supt.	Dry process hardboard using Asplund-defibrator fiber. Basic raw material is white fir. Standard & tempered board in many thicknesses and types.
Willamette Fibre & Chipboard, Inc. 1955	Sweet Home, Ore.	15,840,000 " ⅜"	John Tyner, pres. Hobert O. McQueary, vice pres.	Have just inaugurated production of Chipboard, plain & veneered.

Total Production Capacity: 866,000,000 sq. ft. (for full scale plants currently operating)

Total Capacity (incl. plants not completed or now operating at partial capacity): 974,840,000 sq. ft.



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Hardboard

Eastern & Latin America Hardboard Plants

Firm Name & Year began Production	Plant Location	Annual Production Capacity (or as noted)	Key Personnel	Details on Process and Products
Abitibi Power & Paper Co., Ltd.	Sturgeon Falls, Ontario	55,000,000 sq. ft. ¼"	A. L. Farnsworth, mgr., Bruce Taylor, supt.	Hardboard, using wet process.
Berkline Corp.	Morristown, Tenn.	10,000 sq. ft. per day 9/16"	Lester Popkin, mgr.	Uses horiz. 48" chipcraft extruder for making 9/16" Chipcore for Formica table tops, wardrobe panels and footstool frames.
Cavalier Corp.	Chattanooga, Tenn.	6,000,000 sq. ft. ⅜"	J. H. Lane, pres.; W. G. Raoul, v-pres. M. W. Moore, mgr.	Mat process. Brand name Lignabond; bonded wood paneling used for plywood cores. Stock thickness ⅜ or ¾".
Duratex S/A—1954	Sao Paulo, Brazil	Annual capacity estimated at 33,000,000 sq. ft. ⅜"	Eudora Vallela, dir. gen.; Dr. Eduardo Zoega, plant adm.; Dr. Nivaldo Coimbra de Ulhoa Cintra, mgr. dir.	Now in commercial production of "Duratex" hardboard from Eucalyptus wood. This is the first hardboard plant in Brazil, German press, most of other equipment is Swedish. Board resembles domestic American hardboard. Engineering by A. B. Defibrator of Sweden.
Fibracel S/A	Cd. Valles, San Luis Potosi, Mexico	32,000,000 sq. ft. 1/10, ⅛, & 3/16"	Ing. Baltasar Marquez, gen. mgr.; Ing. J. A. Ruiz Duarte, asst. gen. mgr.; Ing. Raul Madrazo, plant mgr.	Using wet-type system in plant designed by American Defibrator & A. B. Defibrator. 1/10, ⅛, 3/16" std. hardboard ("Fibracel Duro"); ⅛, 3/16" tempered board ("Fibracel Extraduro"); ⅛" tempered peg board ("Perfocel").
Granite Board, Inc.	Goffstown, N.H.	——	——	No details reported.
Jasper-American Corp.	Jasper, Indiana & Henderson, Ky.	Current production 6,000 sq. ft. daily; expected capacity, 9,000 sq. ft.	Arnold F. Habig, pres.; R. B. Hagedorn, plant mgr.	Making chipcore panels from sawmill waste by vertical extrusion process. Jasper Corp., Jasper, Ind., converts chipcore to use in TV cabinets, furniture, cabinet stock, etc.
The Lane Co.	Altavista, Va.	5,000,000 sq. ft. 13/16" basis (extrusion board); 2,000,000 sq. ft. (multiplaten board)	R. Dolman Bibby, gen. mgr.	Company's own dry extrusion process. Lanewood up to 50" wide and 2" thick. All used as furniture cores for highly polished surfaces.
Masonite Corp. of Canada, Subsidiary of Canadian International Paper Co.	Gatineau, Que.	115,000,000 sq. ft. ¼"	V. E. Johnson, pres. P. A. Sargent, gen. mgr.; E. B. Wait, plant mgr.	Masonite "gun" process; Masonite presses. Complete line of Masonite "Presdwoods."
Masonite Corp.	Laurel, Miss.; Head office, Chicago, Ill.	870,000,000 sq. ft. ¼"	John M. Coates, pres.; D. J. Gray, v. p. & gen. mgr.; H. E. Nee, asst. gen. mgr.; P. B. Shoemaker, v. p., sales (Chicago); F. G. Lesniak, plant engr.	Masonite "gun" process. Complete line of Masonite "Presdwoods." Largest plant in the world. By-products: wood flour, liquids and dry sugars.
Mississippi Products, Inc.	Jackson, Miss.	——	George A. Huth, pres.	Producing a chip-type board.
Nu-Ply Corp.—1955	Bemidji, Minn.	100 tons per day	A. C. Nasvik, pres.	Production to begin by June. Process: Nu-Ply, a plywood with an aspen wood fibre core using Elmendorf process. Also hardboard in various thicknesses and grades.
Owosso Mfg. Co.—1954	Benton, Ark.	3,000,000 sq. ft. 11/16"	Paul M. Leird, pres.-mgr.	Horizontal extrusion process. Chipboard primarily for core stock. 25" wide any length. Thickness ⅜" to 1¼". 300,000 sq. ft. produced in 1954, first year of operation.
Rock Island Millwork Co.	Rock Island, Ill.	5,000,000 sq. ft.	E. A. Gerber, vice pres. & gen. mgr.; Jack Daubert, plant supt.	"Resinwood" hardboard from raw materials of sawdust, shavings and mill leftovers.
Superwood Corp. (formerly Superior Wood Prod. Co.)	Duluth, Minn.	75,000,000 sq. ft. ⅜"	M. J. Opsahl, pres.; G. A. Jondal, vice pres., production; G. A. Fewson, chem. engr.	"Superwood" hardboard using Chapman process. Special products: Superwood panel stock, standard and tempered Superwood. Produced 58,121,000 sq. ft. in 1954.
Southern Plywoods, Inc.	Greenville and Madison, Fla.	——	Pete J. Stern, asst. mgr.	Not yet in production. Acquired rights for Nu-Ply for southeastern U.S.

Firm Name	Plant Location	Annual Production Capacity (or as noted)	Key Personnel	Details on Process and Products
Souhegan Mills	New Hampshire	---	---	Plaswood process board.
Southern Plaswood Corp.	Hope, Arkansas	12,500,000 sq. ft.	Guy E. Basye, pres.; E. J. Ogran, mgr.	Chipboard by Plaswood process. ⅛ to 1" thick, up to 4x8' size panels. Sidewall sheathing and underlayment for resilient floor coverings. Sanded corestock for furniture. New products include veneered panels and underlays for plastic laminates. 7,200,000 sq. ft. produced in 1954.
Tempron Corp.	El Paso, Tex.; Head Office Chicago, Ill.	---	J. F. Berliner, pres.; C. C. Cragin, dir.	Proposed hardboard plant.
Trafalgar Mills, Ltd.	South Nelson, N.B., Canada	21,648,000 sq. ft. ⅛"	L. J. O'Brien, pres.	"Plaswood" process. Core stock, sheathing, underlayment, wall panels.
U. S. Gypsum Co.	Greenville, Miss.	78,000,000 sq. ft. ⅛"	---	Duron hardboard. U. S. Gypsum dry process.
Wabash Screen Door Co.	Minneapolis, Minn.	4,000,000 sq. ft.	L. A. Patronsky, asst. v.p. in chg. of particle bd. dept.	Producing "Wabash Wood Particle Board" made by dry process using Ponderosa pine chips treated with resin and hot press. Board is sold to furniture mfrs., plastic laminators and specialty mfrs.
Wynnewood Products Co.	Jacksonville, Tex.	12,000,000 sq. ft. ⅛"	A. G. Wynne, Jr., pres.; T. H. Johnson, vice pres., gen. mgr.	Dry process. Wynne Wood hardboard, 4x8' panels. ⅛-1" thick, overlaid with Formica, Micarta, Fabrican, etc. Tabletops and paneling. Expect to produce 8,000,000 sq. ft. in 1955.

Totals for eastern production not computed because of the great variety of units of production.

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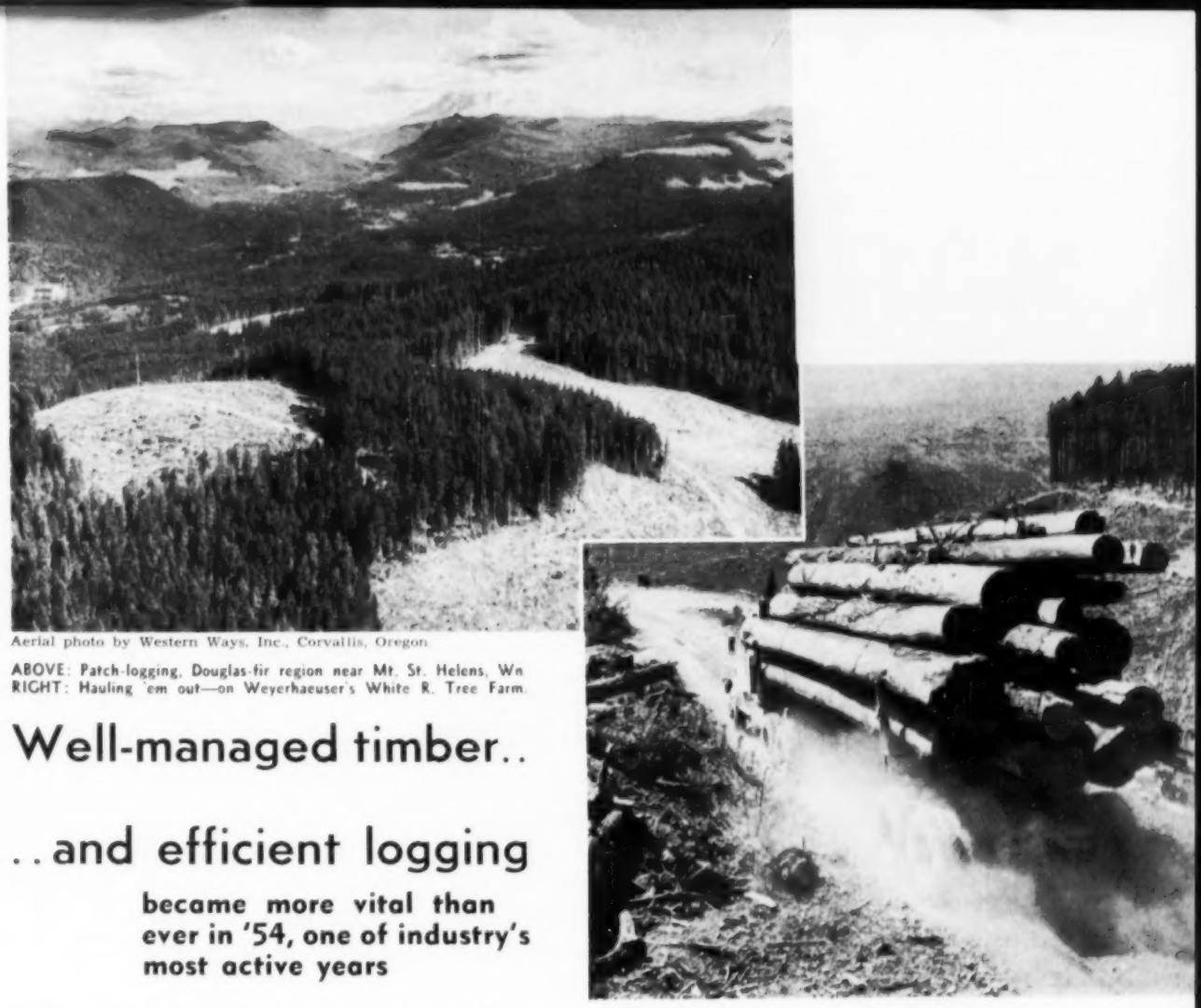


Aerial photo by Western Ways, Inc., Corvallis, Oregon

ABOVE: Patch-logging, Douglas-fir region near Mt. St. Helens, Wn.
RIGHT: Hauling 'em out—on Weyerhaeuser's White R. Tree Farm.

Well-managed timber..

..and efficient logging

became more vital than ever in '54, one of industry's most active years

BRINGING THE ROUND stuff down to the mill in 1954 again offered new challenges to the ingenious logger, who is becoming more and more concerned with total utilization of his timber crop. Increasing stumpage prices on some public timber sales, coupled with smaller trees, more mixed species and longer hauls have forced the loggers to cut costs wherever possible.

Forest Practices

Increased emphasis is being placed on relogging old growth Douglas fir timber, relogging, salvaging timber killed by major forest fires and beating the Engelmann spruce bark beetle and Douglas fir bark beetle to the punch in the Inland Empire and Douglas fir regions, respectively.

On the beetle front, the U. S. Forest Service reports that about 270 million bd. ft. of spruce were logged in Idaho and Montana during the 1954 production year, against a goal of 392 million bd. ft.

In the Douglas fir region depredations of the bark beetle slowed down in 1954. Total recorded mortality through 1953 was 13,465 million bd. ft., of which 10,394 million was blowdown and 3071 million was beetlekill. An estimated one billion bd. ft. has been salvage logged in 3½ years. Private operators salvaged about 316 million bd. ft. in 1954 and expect to cut about 100 million in 1955.

A new bug in western Washington, the silver fir bark beetle, caused concern.

Much attention has been focused in 1954 to the problem of windthrow around the edges of staggered settings.

Periodic thinning of young stands seems to be the most dynamic new concept of forest management. Also salvage of dead wood has increased tremendously in 1954 with prospects of greater utilization in the future. Use of high lead for prelogging has been developed during 1954.

Tree length logging is also being done in more operations each year, although necessarily confined to small timber operations. Snag falling in green timber as a fire protection measure received additional emphasis.

New Types of Logging Equipment

One important development was the installation of the Wyssen cable system of logging on a 7.2 million bd. ft. sale on the Chelan N. F. in Washington. (A second system is to be installed on the St. Joe National Forest in Idaho.)

The LeTourneau Electric Logger is probably the only entirely new machine, or radical departure from older models that came out in 1954.

The general trend is toward smaller and more mobile equipment designed for more efficient thinnings and salvage. In Alaska ten drum barge-mounted slack line yarders were placed in operation by a pulp company.

Use of rubber tired equipment has increased greatly in 1954 and probably will continue to increase on the same scale. Fast rubber tired tractors are being used more and more to road logs for long distances to a mainline road, or railroad, rather than to build spur truck roads. They have been extremely useful in light-cut logging.

The portable steel spar has become exceptionally prominent in 1954. Several radically new models appeared during the last year, and almost every manufacturer of yarding equipment either is making, or plans to produce, some type of a portable spar from 50'

to 90' in height.

Use of some version of fork lifts on the front end of tractors for sorting and loading has increased greatly, especially in the pine areas. This is the outstanding trend in log handling. Units with load capacities up to 55,000 pounds have been built. Mills with limited pond space or skyline storage decks can effect great savings in labor and equipment.

There is a trend toward "fixed length" log loading; i.e., a truck hauling a load of 16 foot logs on the truck and towing a trailer with another load of 16 foot logs.

Hammond Lumber Co., Trinidad, Calif., has developed a new type of log truck hauling bed which is called a "log basket".

Air tongs are being used more and more on both rubber tired and crawler type crane loaders. The second loader tongs, an automatic unit, are also finding favor.

From the Various Regions

IN MONTANA, J. Neils Lumber Co. has converted from end hooks to clamshells in log loading and decking. The method is faster, reduces manpower, increases safety and makes for safer log loads. Fewer logs are lost along the road.

In Southern Idaho, timber access road construction is developing rapidly in Boise and Payette National Forests. More jobs were let last year than during entire history of the forests.

Banding of logs has been applied to increase log storage capacity in ponds. Sprinklers on log decks have also been tried. Generally, loggers in this area had one of the best years on record. Fir log inventories are low and log demand should be good until mid-summer.

CALIFORNIA TIMBER purchasers constructed 240 miles of timber access roads on national forest permanent road systems. FS constructed an additional 14 miles. Federal contracts awarded for road construction totaled $1,124,500.00.

Salvage of insect and fire killed timber in Region 5 was again pushed, resulting in 90 special salvage sales totaling 25 million bd. ft. In the pine forests on the east side of the Sierras light sanitation-salvage logging removed 119 million bd. ft. of poor-risk trees, with sales averaging as low as 1,000 ft. per acre.

Use of slash chippers in place of pile and burn methods was started on one national forest in 1953. One company purchased a chipper in 1954 and another is planning to acquire a chipper in 1955.

Industry spokesmen state that re-logging and salvage logging in the redwood region have increased tremendously the past six months because of improved milling techinques and favorable economics.

Mobile log loading cranes and rubber tired arches are moving in rapidly in the Douglas fir type. They are units which help reduce logging costs.

The trend in high lead logging in redwood is toward smaller settings with as little clear cutting as possible.

The trend toward splitting large redwood logs with chain saws is progressing.

BRITISH COLUMBIA rolled up a new production record, with a total log scale of more than 4,466 million bd. ft., about half a billion feet better than in 1953.

One of the most interesting developments of the year was the introduction of the rubber-tired skidder for dragging logs over snow-covered roads. Cranbrook Sawmills was using rubber-tired units on a five or six mile haul, replacing tractors and trucks partly because the latter were harder to handle on steep grades.

The lower Fraser River has its first successful log drives as a result of the pioneering effort of McCorkle Bros. using strapped log bundles dropped into the canyon above Hell's Gate and depending on the fast-flowing current to deliver the logs to the downstream booming grounds.

Powell River Co.'s subsidiary Kingcome Navigation Co. introduced a new type of all-steel log carrier specially designed and built for deep sea log transportation. The company has built two of these 342-foot carriers at a cost of over $600,000 each.

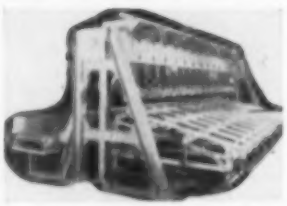
FEW "GADGETS" COMPARE with "Joe's Jaw," originated by Supt. Joe Cliffe of Comox Logging & Railway Co., Crown Zellerbach subsidiary. This amazingly efficient but comparatively simple apparatus lifts logs out of the water on Nanaimo Lake and bundles them out for rail transportation with extreme dispatch.

The floating log splitter built for MacMillan & Bloedel at Harmac splits big and often irregularly shaped logs so that the cants can be handled by the mill's hydraulic barker.

Volume and Value of Timber Cut, According to Product, Southern Forest Service Region, July 1, 1953, to June 30, 1954

National Forest	Hdw. Sawtimber Volume	Hdw. Sawtimber Value	Pine Sawtimber Volume	Pine Sawtimber Value	Pulpwood Volume	Pulpwood Value	Tarwood Volume	Tarwood Value
Alabama	12,804	94,848	26,895	527,555	2,806	15,406	438	701
Chattahoochee	14,488	315,051	10,981	267,498	506	1,385		
Cherokee	8,104	159,178	9,142	174,976	1,166	3,051		
Florida	2,620	35,475	16,164	307,766	29,713	198,557	1,018	1,235
Kisatchie	6,446	28,270	11,668	343,706	11,035	47,806	16,558	73,378
Mississippi	17,892	216,031	31,021	902,609	27,116	174,692	13,467	45,897
N. Carolina	20,836	350,765	15,073	226,542	3,993	11,407		
Ouachita	3,676	21,892	40,441	1,841,281	1,689	4,749		
Ozark	8,407	41,924	9,906	319,614	3,418	17,733		
S. Carolina	5,110	83,408	23,971	839,738	10,015	50,334		
Texas	17,510	142,264	47,572	1,520,772	26,160	113,478		
Grand Totals	117,893	1,489,106	242,834	7,272,057	117,617	638,598	31,481	121,211

FINE Sawmill Machinery for 50 YEARS



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◀ I. W. JOHNSON ENGINEERING CO. 24-ft. (13 saw) automatic trimmer with feed table installed at the new redwood mill—CALIFORNIA TIMBER PRODUCTS, near Annapolis, California.

I. W. JOHNSON ENGINEERING CO. Telephone MArket 2217 TACOMA, WASHINGTON

Log Production in Oregon & Washington, 1925-53

Year	Western Oregon	Eastern Oregon	Total Oregon	Western Washington	Eastern Washington	Total Washington
1925	2,874,785	957,469	3,832,254	5,965,724	467,843	6,433,567
1926	2,907,395	970,443	3,877,838	5,921,224	509,295	6,430,519
1927	2,998,395	756,751	3,755,146	6,374,402	425,056	6,799,458
1928	3,099,735	903,555	4,033,290	6,677,244	467,331	7,144,575
1929	3,465,255	1,064,560	4,529,815	6,828,697	555,509	7,384,206
1930	2,208,380	868,225	3,076,605	4,339,661	416,905	4,756,566
1931	1,581,214	676,020	2,257,234	3,231,157	345,315	3,576,472
1932	1,069,737	393,275	1,463,012	2,042,366	219,945	2,262,311
1933	1,574,535	631,820	2,206,355	3,194,327	298,700	3,493,027
1934	2,055,186	616,615	2,671,801	3,375,485	308,785	3,684,270
1935	2,255,086	1,014,940	3,270,026	3,352,198	358,380	3,710,578
1936	2,862,735	1,213,086	4,075,821	4,620,331	405,340	5,025,671
1937	3,375,430	1,327,035	4,702,465	4,660,728	445,562	5,106,290
1938	2,752,602	1,027,037	3,779,639	3,036,869	346,586	3,383,455
1939	3,349,415	1,475,319	4,824,734	4,024,835	415,949	4,440,784
1940	3,879,620	1,479,080	5,358,700	4,520,408	463,441	4,983,849
1941	5,265,210	1,598,926	6,864,136	4,649,481	494,535	5,144,016
1942	5,236,370	1,693,793	6,930,163	4,419,359	510,110	4,929,469
1943	5,555,502	1,491,042	7,046,544	4,154,998	478,247	4,633,245
1945	4,832,896	1,070,181	5,903,077	2,979,289	404,524	3,383,813
1946	5,434,722	1,254,815	6,689,537	3,362,702	466,229	3,828,930
1947	6,634,424	1,266,071	7,900,495			
1948	7,203,652	1,190,976	8,394,628	3,514,002	598,467	4,112,469
1949						
1950						
1951	7,219,000	1,514,060	8,733,060	3,198,999	683,200	3,881,200
1952	7,718,379	593,668	9,802,471*	3,582,751	650,022	4,232,744
1953	7,277,341	1,181,265	8,587,160†			

*Includes 1,355,300 M and 135,124 M bd. ft. on USFS & US Indian Service lands, resp., not included in either breakdown of E. & W. Oregon.
†Includes 128,554 M bd. ft. on Indian Service lands, not included in the E. & W. breakdown.
Source: Forest Service; state of Oregon; state of Washington.

Timber Cut in Forest Service Region 10 (Alaska)[1]

(Thousands of bd ft.)

	Tongass Nat'l Forest[2]			Chugach Nat'l Forest[3]			Total Region 10		
	Volume	Value	Per M	Volume	Value	Per M	Volume	Value	Per M
1949	49,220	$105,294	$2.14	5,910	$ 8,762	$1.48	55,130	$114,056	$2.07
1950	54,537	120,486	2.21	5,424	5,705	1.05	59,961	126,191	2.10
1951	52,894	147,699	2.79	5,803	7,450	1.28	58,697	155,149	2.64
1952	63,357	204,909	3.23	2,159	7,746	3.59	65,516	212,655	3.24
1953	59,196	201,642	3.41	4,665	16,368	3.51	63,861	218,010	3.41
1954	109,237	299,322	2.74	1,775	5,937	3.34	111,012	305,259	2.75
Last 5 yrs.	67,844	194,812	2.87	3,965	8,641	2.18	71,805	203,453	2.83

[1] Excludes Interior Department administered lands, which provide timber for a number of small mills.
[2] Southeastern Alaska. [3] Prince William Sound and Kenai Peninsula areas.
Source: U. S. Forest Service, Juneau, Alaska.

Volume & Value of Nat'l Forest Timber Cut, 1905-54

	1905	1910	1920	1930	1940	1945	1950	1951	1952	1953	1954
Volume of Timber Cut (million ft., b.m.)	68	379	805	1,653	1,740	3,145	3,502	4,688	4,419	5,360	5,854
Value of Timber Cut ($1000)	86	906	1,764	4,790	4,807	13,016	30,714	47,816	59,341	68,091	65,841

Source: Forest Service.

Lumber Production in Alaska, 1899-1954

Year	Number of mills reporting	Lumber Sawed (M Feet, B. M.) Total	Spruce	Hemlock	Cedar	All Other	Shingles (squares)
1899	10	6,571	6,056	15	[1]	[2]500	n.a.
1904	6	7,974	7,933	—	[1]	[2]41	1,158
1919	22	21,673	21,182	491	n.a.	n.a.	n.a.
1925	28	40,857	35,718	2,938	[1]	[2]2,201	3,295
1929	19	30,393	21,850	8,205	[1]	[2]338	2,943
1935	20	23,499	14,769	8,069	658	3	2,182
1939	24	25,885	18,162	6,071	1,595	57	2,471
1941	27	36,547	28,064	7,515	933	35	3,718
1945	35	59,056	51,623	6,258	1,175	n.a.	565
1946	42	57,506	47,487	8,710	1,296	13	2,432
1947	40	80,480	69,105	9,872	1,497	6	n.a.
1949	69	48,541	39,024	8,647	[3]870	n.a.	n.a.
1954[5]	22	70,055	65,000	5,000	55	—	—

[1] Included in "All Others." [2] Includes figures for cedar lumber. [3] Data not published to avoid disclosing operations of individual establishments. [4] Includes figures for birch. [5] Estimates based on log consumption.
Source: Bureau of Census; Forest Service.

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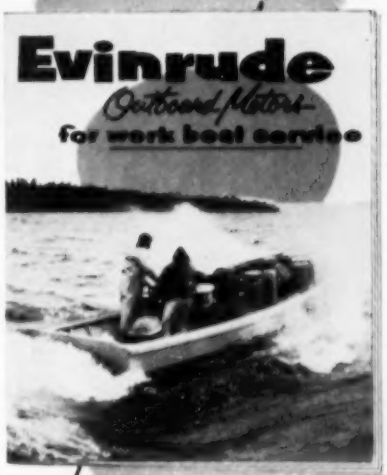

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WHILE THERE ARE fewer radio installations in the south than in the west, the southern region nevertheless has been first to apply several new techniques, such as the TV camera scanner, at left.

ANOTHER LOUISIANA use is on a tractor for receiving directions in fighting fires (inset). The first point-to-point microwave radio system was constructed last year by A. J. Hodges Industries, Inc.

Forest Radio Keeps Growing

As electronic developments open door to a wider range of communications

ELMER L. SURDAM

A BIG YEAR for communications in logging, tree farming and timber management was recorded in 1954, when the number of transmitters jumped to nearly 4000.

The south registered a lead in use of microwave and TV, as exemplified by the pictures above. The west led in number of new licensees with a total of 18, while the south had 11.

Along with the progress made in 1954, however, the forest industries were beset with many problems; and Mr. Elmer Surdam here reports comprehensive review of these problems and the growth of forest radio.

FOREST INDUSTRIES RADIO Communications, organized in 1947 to assist companies engaged in forest activities to establish two-way mobile radio communications, has had a reassuring degree of success in its efforts to aid both the Commission and the industry.

With many advances in the industry, especially in the field of forest protection and transportation, some means of rapid, reliable communications was absolutely essential. Point-to-point wire lines over extensive areas was not the answer to these needs. The kind of communications needed was an area type coverage that would permit a high degree of flexibility. Coverage along a right-of-way was not enough. Thus the first phase of the problem resulted in the industry presenting their needs to the Commission. This was followed by hearings which were culminated in 1949 by the Commission creating a service for the industry and allocating frequency space in which to establish company systems.

Since that time, the industry has expanded this media of communicating with facilities installed on just about everything that moves in the woods. Units are also used in airplanes and on tugs and in locomotives.

The table below clearly indicates the growth of organized forest industries radio:

	1949	1950	1951	1952	1953	1954
Paid members	75	92	123	153	202	248
Radio systems licensed	45	87	172	198	250	272†
Transmitters in use	453*	1,112*	2,199*	3,111	3,505	3,925
Frequencies occupied	17	26	43	52	64	73

†There were 5 applications pending at press time.
*Estimate.

A breakdown of the radio systems licensed by regions in the U. S. reveals that there are 202 licensees in the West, 32 listed for the Southern Division, and nine each for the Eastern and Lake States Divisions.

LOOKING AT THE PICTURE from another viewpoint, we see that the individual systems in 1949 averaged 10 units while in 1954 the average size system of each licensee was composed of 16 transmitter units.

Many networks start with one base or land station and four or five associated mobile units all on one airlane. This permits each operator to talk and receive on the same channel. In radio language this is termed a simplex system.

During the past year, several short distance microwave control and repeater stations were placed in opera-

---

Mr. Surdam is manager of the Forest Industries Radio Communications, Eugene, Ore., an industry-supported organization which represents forest radio users in such activities as assuring that there will be adequate airlane facilities for all who need them.

tion. These stations operated in the 960 MC band and are used to control the mobile land station located on a high mountain top. By so locating stations at high elevations, greater coverage can be obtained without increasing the power of the transmitters. It also permits better talk back from the mobile units.

AT THE CLOSE of 1954, the A. J. Hodges Industries, Inc. of Shreveport, La., were installing the industry's first microwave point-to-point communication system for forest protection and forest management. This system consisting of six stations will provide a backbone network of many circuits through the three farms. Several of these circuits will be devoted to mobile communications. This permits mobile-to-mobile communications between vehicles regardless of the distance separating the cars.

This advance brings us face to face with closed circuit TV cameras and monitors. The application of this device permits scattered but related operations, to be centrally and visually controlled. Its application in our industry is almost limitless. Several installations were made in the industry this past year.

INTERFERENCE. Among other things taking place last year was the proceedings in Docket No. 9288 regarding incidental and restricted radiation devices. In this connection, it should be pointed out that the increased use and application of many electric and electronic devices both in the industry and in the home possess a troublesome interference problem when such interferences disrupt reception of radio or TV programs. The importance of the committee's function on behalf of the industry in dealing with this matter as it pertains to devices employed in our industry is self-evident. We have made great progress. But the future will demand even more effort if the many current problems are to be resolved in a way that will increase the value of radio to the many operators in all phases of the industry.

Still another matter of pressing importance which has engaged a great deal of attention on the part of the committee is the matter of accommodating more users in a fixed radio spectrum. It must be said that additional users of radio facilities can be accommodated only by foresight, careful planning, and continued study aimed toward improved engineering and by following radio developments. At the request of the Committee, the FCC has initiated rule-making to reduce the separation of the presently assigned channels. It is believed that such a plan will give some relief in areas having licensees occupying all the channels available to Forest Products Radio Service.

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ROBERT W. OLIN, Chairman, Forest Industries Radio Communications; c/o Potlatch Forests, Inc., Lewiston, Ida.

GERALD SCHAFER, c/o Schafer Bros. Logging Co., Aberdeen, Wash.

CHARLES JELLISON, Route 1A, Kalispell, Mont.

WILLIAM S. BROMLEY, c/o American Pulpwood Ass'n, 220 E. 42 St., New York 17, N. Y.

PHILIP P. LYNCH, c/o The Brown Paper Mill Co., Monroe, La.

ROBERT C. DOSEN, c/o Nekoosa-Edwards Paper Co., Port Edwards, Wis.

ELMER L. SURDAM, Manager, 10 East Eighteenth Ave., Eugene, Ore.

Forest Radio Licensees Added During 1954

Lake States Division

Nekoosa-Edwards Paper Co., Port Edwards, Wis.
Patterson Brothers, Minocqua, Wis.

Eastern Division

None

Southern Division

Alger-Sullivan Lumber Company, Century, Fla.
Birney Imes, Jr., Columbus, Miss.
Bradley Lumber Company, Warren, Ark.
International Paper Co., Mobile, Ala., South
Louisiana Polytechnic Institute, Ruston, La.
Mason Lumber Company, Washington, N. C.
Matthews Lumber Company, Mansfield, La.
Miller & Company, Inc., Selma, Ala.
Southern Railway Company, Washington, D. C.
W. H. Lamb & Son Lumber Co., Summit, Miss.
West Virginia Pulp & Paper Co., Manteo, Georgetown, S. C.

Western Division

A & B Logging Company, Estacada, Ore.
Cotton Brothers, Spanaway, Wash.
Davidson Logging Co., Inc., Vaughn, Wash.
Dickinson & Son, Concrete, Wash.
Evergreen Loggers Radio Ass'n, Stevenson, Wash.
Fall Creek Lumber Co., Fall Creek, Ore.
M. I. Wood & Son, Crescent City, Calif.
M. W. Logging Company, Naselle, Wash.
The McCloud River Lbr. Co., McCloud, Calif.
Menasha Plywood Corp., North Bend, Ore.
Mervin Rogers Logging Co., Oroville, Calif.
Pete Narbaitz, Round Mountain, Calif.
Roberts Logging Co., Oakridge, Ore.
Snellstrom Lumber Co., Eugene, Ore.
U. S. Plywood Corp., Redding, Calif.
W. A. Woodard Lbr. Co., Cottage Grove, Ore.
Weatherby Lumber Co., Inc., Boise, Ida.
Willits Redwood Products Co., Willits, Calif.

Regional Breakdown of Total Number of Transmitters In Use, January 1, 1955

Division	Transmitters in Use, January 1, 1955
Lake States	75
Eastern	124
Southern	834
Western	2892
Total	3925

(Source: Forest Industries Radio Communications. Note: The FIRC expected that pending applications would soon raise the final total to 4000 units.—Ed.)

Logging & Timber

Comparison of Average Stumpage Prices, 1954, Forest Service Region 6

National Forest	Volume M Bd. Ft.	Species	Stumpage Price Per M* Appraised	Bid
Chelan	59,450			
		Douglas Fir	4.13	4.57
		Western Larch	4.60	5.70
		Ponderosa Pine	19.94	21.20
Deschutes	89,894			
		Douglas Fir	6.35	8.30
		Western Larch	7.02	8.47
		Ponderosa Pine	25.39	30.04
		Lodgepole Pine	5.15	5.58
Fremont	166,078			
		Ponderosa Pine	20.32	20.32
		White Fir	2.55	2.55
		Sugar Pine	19.77	19.77
Gifford Pinchot	95,979			
		Douglas Fir	15.32	29.05
		Western White Pine	13.07	16.39
		Western Red Cedar	4.11	8.21
		Hemlock	3.99	8.71
Malheur	43,300			
		Douglas Fir	2.80	2.82
		Ponderosa Pine	21.72	21.73
Mt. Baker	123,981			
		Douglas Fir	26.69	42.78
		Western Red Cedar	9.64	18.82
		Hemlock	3.96	12.07
Mt. Hood	167,049			
		Douglas Fir	11.13	22.21
		Ponderosa Pine	25.90	31.89
		White Fir	2.87	5.61
		Western White Pine	11.54	16.70
		Western Red Cedar	4.13	9.74
		Hemlock	3.69	10.04
Ochoco	49,650			
		Douglas Fir	5.95	5.95
		Ponderosa Pine	23.32	32.65
Olympic	153,906			
		Douglas Fir	16.32	31.80
		White Fir	5.56	11.68
		Western Red Cedar	6.25	9.81
		Hemlock	3.49	8.54
		Pacific Silver Fir	3.65	10.63
Rogue River	169,161			
		Douglas Fir	11.15	13.31
		Ponderosa Pine	26.80	27.00
		White Fir	2.57	6.48
		Western White Pine	27.30	27.55
		Sugar Pine	27.12	27.38
Siskiyou	46,528			
		Douglas Fir	12.52	18.14
		Ponderosa Pine	29.77	33.32
		Sugar Pine	33.97	33.97
Siuslaw	177,672			
		Douglas Fir	13.46	17.65
		Sitka Spruce	6.85	12.15
		Sugar Pine	5.15	7.95
		Western Red Cedar	3.78	4.27
		Hemlock	4.93	6.37
Snoqualmie	15,902			
		Douglas Fir	23.30	39.19
		White Fir	2.45	6.25
		Western White Pine	16.07	27.98
		Western Red Cedar	4.09	15.34
		Hemlock	6.40	18.71
Umatilla	21,259			
		Douglas Fir	3.83	4.47
		Western Larch	4.06	4.94
Umpqua	244,955			
		Douglas Fir	14.34	20.98
		Ponderosa Pine	22.04	23.29
		Western White Pine	24.54	24.54
		Sugar Pine	29.59	30.26
Wallowa-Whitman	50,097			
		Douglas Fir	4.06	4.11
		Ponderosa Pine	19.89	20.21
Wenatchee	55,969			
		Douglas Fir	11.19	17.18
		Ponderosa Pine	21.89	23.14
		Western White Pine	22.17	25.64
		Western Red Cedar	5.41	6.86
Willamette	360,905			
		Douglas Fir	17.16	22.53
		Ponderosa Pine	16.53	22.00
		Western Red Cedar	4.70	4.94

*Includes K-V funds.
Source: U. S. Forest Service.

Log Production by Species In British Columbia, 1954

(According to "Timber Scaled" Report Issued by B. C. Forest Service)

Species	Volume Ft. BM
Douglas fir	1,569,084,852
Cedar	604,920,172
Spruce	308,992,061
Lodgepole pine	47,109,995
Hemlock	964,033,103
Balsam fir	268,606,912
White pine	41,096,968
Yellow pine	27,118,746
Cypress	14,093,048
Larch	53,371,494
Hardwood	3,574,272
Cottonwood	4,040,760
Total, 1954	3,906,042,383
Total, 1953	4,466,656,905

Volume & Value of Timber Cut From Dept. of Interior Lands

	M bd. ft.	Value
1940	689,905	$ 1,925,825
1941	849,128	2,272,830
1942	970,863	2,674,692
1943	992,533	3,031,556
1944	902,634	3,368,918
1945	1,048,682	4,294,812
1946	909,131	3,631,169
1947	1,095,305	5,000,549
1948	1,247,683	6,861,057
1949	1,152,655	10,200,539
1950	1,116,009	10,557,521
1951	1,338,722	14,639,221
1952	1,272,772	18,431,724
1953	1,348,711	21,740,662
1954	Not available at presstime	

(Includes Bureau of Land Management, Bureau of Indian Affairs, Fish & Wildlife Service, Bureau of Reclamation and the National Park Service. In the case of the latter, the data reflect salvage of either burned, bug kill or R-O-W clearing timber.)

Annual Christmas Tree Shipments, Montana, 1936-53

• For the fifth time in the last 6 years, Montana's Christmas tree shipments totalled over 3,000,000 trees in 1953, latest year for which full data are available. This is a 14% increase over 1952 and returns the industry to the general level of business existing from 1948 to 1951. The overall picture continues to fluctuate due to such factors as climate, markets, insect attacks and disease.

Here is how the 10 leading states ranked for receiving rail shipments (1952 rank is shown in parentheses): 1. Texas (2); 2. Iowa (1); 3. Oklahoma (6); 4. Missouri (4); 5. Illinois (3); 6. Nebraska (7); 7. Kansas (5); 8. Louisiana (9); 9. Minnesota (10); 10. California (replaces Indiana in the "top ten").

	Trees Shipped		
1936	1,242,500	1945	2,723,500
1937	1,534,500	1946	3,299,400
1938	1,676,000	1947	2,515,640
1939	1,967,350	1948	3,098,886
1940	2,338,350	1949	3,256,956
1941	3,082,650	1950	3,017,780
1942	2,203,750	1951	3,084,540
1943	3,102,480	1952	2,644,600
1944	2,755,750	1953	3,020,281

Source: Forest Service.

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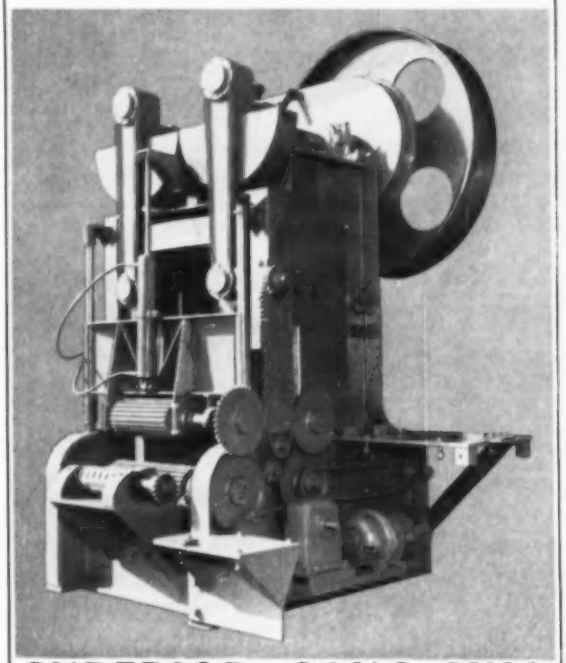

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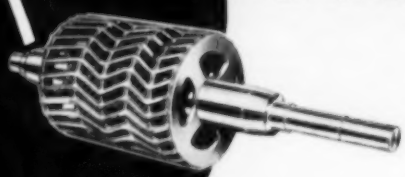

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Logging & Timber

Timber Production in the State of California, by District – 1952 & 1953

Calif. Div. of Forestry District	1952 Sawlogs & veneer logs (M bd. ft.)	1952 Piling & poles (pieces)	1952 Pulp wood (M bd.ft.)	1952 Total all products* (M bd. ft.)	1953 Sawlogs & veneer logs (M bd. ft.)	1953 Piling & poles (pieces)	1953 Pulp wood (M bd.ft.)	1953 Total all products* (M bd. ft.)
North Coast	2,080,807	19,257	80,121	2,176,330	2,581,811	8,462	54,514	2,644,562
Northern	1,808,999	12,485	4,400	1,816,945	2,180,233	4,452	275	2,182,301
Central Sierra	852,838	7,404	9,520	863,250	954,842	15,220	6,200	963,834
San Joaquin	169,298	....	....	169,585	165,268	500	....	165,376
Central Coast	23,704	110	467	26,005	20,108	....	3,710	26,601
Southern	4,298	2,500	....	4,921	5,983	10,000	....	7,414
STATE TOTAL	4,939,944	41,756	94,508	5,057,036	5,908,245	38,634	64,699	5,990,088

*Includes sawlogs, veneer logs, pulpwood; and piling, poles, fence posts, other split products and fuelwood converted to board feet.
Source: California Division of Forestry.

Comparison of Average Appraised and Bid Prices for Major Species, Region 5*

National Forest	Volume cut, all species, M bd. ft.	Ponderosa Pine Appraised	Ponderosa Pine Bid	Sugar Pine Appraised	Sugar Pine Bid	White Fir Appraised	White Fir Bid	Douglas Fir Appraised	Douglas Fir Bid	Incense Cedar Appraised	Incense Cedar Bid
Eldorado	38,805	31.04	33.19	40.29	41.07	3.47	4.02	11.72	11.72	3.22	3.38
Inyo[1]	10,221	5.00	5.00								
Klamath	93,279	19.86	21.06	22.95	25.22	1.50	1.60	2.96	4.82	1.50	1.58
Lassen	104,065	27.68	27.94	34.07	34.39	2.40	2.41	4.80	4.80	2.40	2.40
Mendocino	24,111	20.81	21.32	23.57	23.96	1.50	2.00	2.50	3.20	1.50	1.50
Modoc	55,325	24.96	26.68			1.50	1.50			1.50	1.50
Plumas	87,181	23.08	25.62	31.17	31.60	1.79	2.21	7.08	7.32	1.97	2.30
San Bernadino[2]	5,906	7.00	7.00	7.00	7.00	1.50	1.50				
Sequoia	29,330	29.37	29.37	35.75	35.75	1.71	1.71			1.71	1.71
Shasta-Trinity	78,914	25.56	28.48	28.97	30.69	1.80	2.92	3.23	4.70	1.78	2.29
Sierra	45,041	24.12	24.12	30.14	30.14	1.50	1.50			1.50	1.50
Six Rivers	42,667	15.97	16.63	26.02	26.42	1.50	1.50	3.58	5.55	1.50	1.53
Stanislaus[3]	49,991	13.78	15.88	16.46	19.46	1.50	1.66	3.46	3.53	1.50	1.79
Tahoe	69,224	27.58	28.70	31.25	31.74	1.54	2.60	5.30	5.93	1.54	1.74

*Cooperative deposits for stand improvement (Knutson-Vandenberg Act) included in prices.
[1]Basis, one sale; [2]Basis, one fire salvage sale; [3]Basis, eight sales, 5 were fire salvage.
Source: U. S. Forest Service.

Comparison of Average Stumpage Prices, 1954, Forest Service Region 1

(Northern Rocky Mtn. area of Montana, Northern Idaho & NE Washington)

National Forest	Volume	Ponderosa Pine Appraised	Ponderosa Pine Bid	Western White Pine Appraised	Western White Pine Bid	Larch-Douglas Fir Appraised	Larch-Douglas Fir Bid	Englemann Spruce Appraised	Englemann Spruce Bid
Beaverhead	1,750					5.00	5.00		
Bitterroot	13,847	18.74	18.79			3.06	3.26		
Clearwater	48,942	11.25	11.25	17.12	17.12	1.76	1.76	2.00	2.02
Coeur d'Alene	89,218	21.20	21.20	31.81	32.44	2.29	2.69	4.58	4.58
Colville	58,891	14.24	14.35	16.18	18.93	3.19	3.56	8.55	8.83
Custer	415	7.50	7.86						
Deerlodge	86,780							3.06	3.37
Flathead	35,020	4.25	4.25	24.10	26.40	3.06	4.75		
Gallatin	790					4.87	4.87	4.60	4.60
Helena	350					4.45	4.45		
Kaniksu	144,313	16.11	20.12	24.89	25.68	2.02	2.86	3.02	3.03
Kootenai	251,724	21.88	22.25	25.36	27.34	3.37	5.35	1.89	1.94
Lewis & Clark	622					3.61	3.67		
Lolo	158,819	15.51	18.43	22.39	35.73	2.26	2.48	2.91	2.96
Nezperce	64,525	13.99	20.89	15.50	15.50	3.00	3.53	6.40	7.05
St. Joe	68,368	21.15	21.68	14.26	14.71	2.08	2.62	1.68	1.68

Logging & Timber

Comparison of Stumpage Prices, Eastern Forest Service Region, 1954

National Forest	Species	Average Price Per M Appraised	Bid
Allegheny	Ash	$28.00	$28.00
	Black Cherry	39.74	44.67
	Beech	13.10	13.16
	Red Maple	20.70	21.52
	Red Oak	14.35	14.35
	Sugar Maple	33.83	35.66
	White Pine	14.35	14.35
Cumberland	Yellow Poplar	18.70	20.16
	Basswood	15.33	15.33
	Pine (shortleaf pitch, Va.)	14.69	15.92
	Hemlock	17.83	19.50
	White Oak	17.09	17.64
	Chestnut Oak	14.30	14.90
	Red Oak	13.37	13.63
	Ash	12.00	12.00
	Red Maple	13.50	13.50
	Sugar Maple	12.00	12.00
George Washington	Red Oak	22.12	26.60
	White Oak	24.54	27.23
	Yellow Poplar	23.81	27.48
	White Pine	17.71	20.05
	Basswood	14.42	16.58
	Sugar Maple	11.28	12.43
Green Mountain	Red Spruce-Fir	16.84	20.50
	Yellow Birch	33.50	34.21
	Sugar Maple	24.52	24.94
Jefferson	Red Oak	15.28	15.28
	White Oak	12.00	12.00
	White Pine	11.00	11.00
	Pitch Pine	10.00	10.00
	Short L. Pine	12.00	12.00
	(Note: Advertised sawtimber sales on the Jeff. N. F. in 1954 were sold at the advertised price. Accordingly the average appraised and average bid price are the same.)		
Monongahela	Sugar Maple	15.00	18.04
	Birch	12.53	15.22
	Black Cherry	12.68	16.05
	Ash	16.63	16.70
	Hemlock	10.77	13.46
	White Oak	16.96	19.72
	Red Oak	15.65	20.19
	Chestnut Oak	8.64	11.06
	White Pine	22.39	29.26
White Mountain	Paper Birch	15.47	18.35
	Yellow Birch	16.75	19.29
	Sugar Maple	12.14	13.71
	Red Spruce	5.72	6.25
	Hemlock	3.67	5.29
	White Pine	15.36	20.52

Above table for advertised sales only.
Source: Forest Service. Note: Sales of pulpwood and other non-sawtimber products are not included.

Production of Red Cedar Shingles and Shakes in U. S.

Years	Shingles (in squares)	Shakes
1937	5,279,349	.....
1938	5,891,882	.....
1939	6,210,102	.....
1940*	5,791,675	.....
1941*	5,674,244	.....
1942	5,007,362	15,264
1943	3,450,529	2,961
1944	3,242,699	4,163
1945	2,838,572	8,459
1946	3,177,771	29,693
1947	3,737,104	65,706
1948	3,315,364	106,519
1949	2,984,388	103,670
1950	3,490,614	148,315
1951	2,825,290	147,984
1952	2,695,180	175,788
1953	2,577,849	227,706
1954†	2,835,633	284,732

*Includes shakes.
†THE LUMBERMAN's estimates.
Source: Census Bureau.

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J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D J F M A M J J A S O N D
1950
1951
1952
1953

Down-Down-Down Go the Logging Industry's Injury Rates as a Result of More Effective Safety Work

1954 MARKS THE END of a 5-year period during which the logging industry has made encouraging progress in safety matters in the Douglas fir region. The production and extensive use of two safety motion pictures, "Yarding Logs" and "Hauling Logs", occurred during this time. Serviceability of "Hauling Logs" was increased substantially by breaking it down into a series of short pictures which were used at safety meetings to stimulate study and discussion in relation to certain production and transportation problems. This discussion series has been used intensively by industry safety supervisors, particularly in Washington and British Columbia.

During the past two years, the Pacific Northwest Loggers Assoc. has been holding a number of safety meetings in the several principal logging areas of both Oregon and Washington. These meetings are attended by management personnel not only for the purpose of analyzing circumstances connected with injuries, but also for discussing administrative means of avoiding accidents.

THESE METHODS of supplementing and encouraging individual company safety programs have resulted in marked improvement in injury experience during these five years. The accompanying graph compiled from injury frequency reports received from contributing logging operations shows the progress made. These monthly reports total upwards of sixteen million man hours of exposure time annually. At the end of the first year, the cumulative injury frequency rate was 111.03. At the end of the fifth year, the rate was 68.38, which was a reduction of 42.65 points.

As a recognition of individual company accomplishment and interest in the improvement of safety experience, the Pacific Northwest Loggers Assoc. at its annual members meeting, awards to each qualifying logging operation a certificate of achievement.

During 1954, seven companies merited safety achievement certificates, and one company received an honorable mention recognition.

REGIONALLY, a Forest Industries Accident Prevention Committee was organized, to coordinate safety work, arouse management's interest, advance accident prevention and develop accurate statistics. The committee is composed of two members from each of the following associations: Pacific NW Loggers, West Coast Lumbermen's, Western Pine, Douglas Fir Plywood, Southern Oregon Conservation and Tree Farm and Western Forest Industries.

In California safety records were further improved. One company reported 55 fewer disabling accidents in 1954 than in 1953. Caspar Lbr. Co. reported 365 days without a lost-time accident.

The combined efforts of safety organizations such as the Forest Products Safety Conference, Oregon Timber Transport Operators, Calif. Assoc. of Timber Truckers, and Governors' Safety conferences are beginning to show their impact.

Average Stumpage Prices, S.W. Forest Region, 1954

Forests	Total Volume MBM	Weighted Average Stumpage Price: Ponderosa pine Appraised	Ponderosa pine Bid	Lodgepole pine Appraised	Lodgepole pine Bid	Engelmann spruce Appraised	Engelmann spruce Bid
Colorado							
Arapaho	3,934	$	$	$3.25	$7.25	$3.25	$7.25
Grand Mesa–Uncompahgre	2,310	6.80	7.00			4.50	4.50
Gunnison	894					3.75	5.10
Pike	1,626	5.80	5.80			5.80	5.80
Rio Grande	19,700					4.27	4.92
Roosevelt	3,126			5.46	7.08		
Routt	1,024			4.00	5.80		
San Isabel	None						
San Juan	53,380					5.63	5.63
White River	1,545			6.08	6.08		
South Dakota							
Black Hills	19,147	10.79	11.22				
Wyoming							
Bighorn	1,875			3.00	3.00		
Medicine Bow	109,234			4.04	4.05	4.04	4.05
Shoshone	1,747			4.60	4.60	4.60	4.60

Source: U. S. Forest Service

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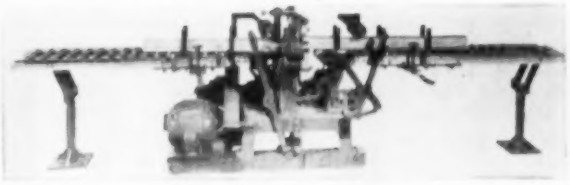

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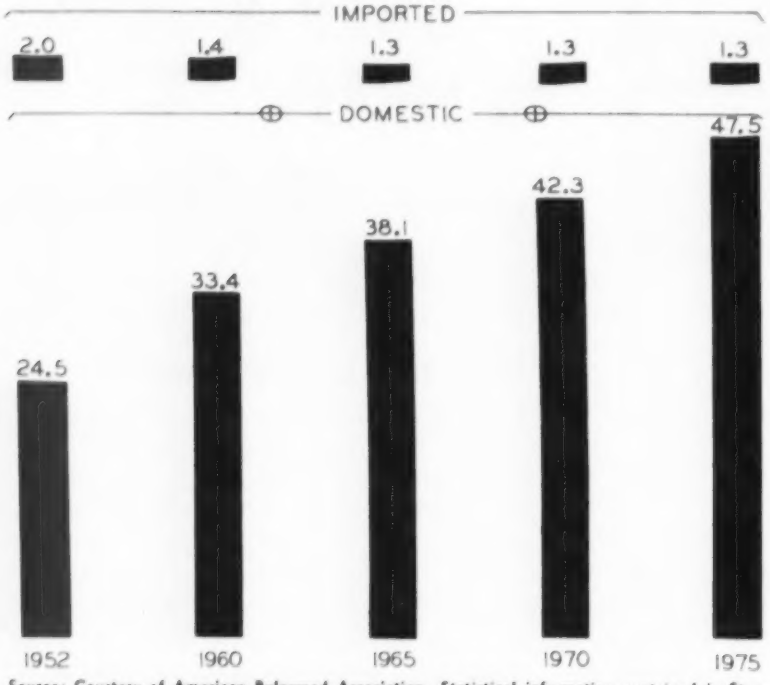

Source: Courtesy of American Pulpwood Association. Statistical information contained in Stanford Research Institute Report sponsored by Weyerhaeuser Timber Co.

New Record in Pulpwood in '54

is reported, while output for 1955 and beyond is expected to soar higher

W. S. BROMLEY

AN ALL-TIME HIGH in pulpwood consumption in the United States was reached in 1954. Preliminary reports of the Bureau of Census show that more than 29,400,000 cords of pulpwood was consumed by the industry to meet the increased demand for pulp and paper products. All indications point toward a much higher consumption figure for 1955.

Of the five regions involved, the Western area has shown the greatest increase in pulpwood consumption, which amounted to 14%.

Pulpwood inventories at mid-February are slightly lower than they were last year. Inasmuch as labor supply and pulpwood availability appear to be adequate the situation is not considered serious.

WITH THE EXCEPTION of the Northeastern area, where weather conditions hindered pulpwood operations, the procurement of raw materials to satisfy industries' demands during 1954 presented no great problem.

The utilization of sawmill residues in the South is on the upswing. Latest reports reveal that approximately 250,000 cords of pulp mill quality chips are now produced annually in this area by 22 sawmills. West Coast mills now obtain a substantial portion of their wood fibre requirements from sawmill residues. Many mills in this area now fill over 50% of their requirements with chips from this source.

With six new pulp mills in the South completed or in final stages of completion, indications are that 1955 will also be a record year.

OUTLOOK FOR 1955 and the future indicates an increasing demand for pulpwood, rising from 26.5 million cords in 1952 to 48.8 million for 1975. A chart of this expected increase in the demand for pulpwood is shown with this article. Coupled with this is the expected increased use of hardwood species for pulping; increasing from 3.5 million cords in 1952 to as much as 12.5 million cords in 1975.

Consumption of chips from sawmill residues is to reach a level representing 20% of the domestic pulpwood production predicted for 1975. These estimates were developed by the Stanford Research Institute and published in the study "America's Demand for Wood." This project was sponsored by the Weyerhaeuser Timber Company, who have summarized the results and released them to industry recently.

Mr. Bromley is executive secretary of the American Pulpwood Association. As a keen observer of trends in pulpwood production both in the woods and in wood-using plants, Mr. Bromley herewith brings his third successive annual review of the national pulpwood picture.

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Pole Production in Northern Rocky Mountain Area, 1951-53

Species	Montana			North Idaho			Northeast Washington			Total		
	1951	1952	1953	1951	1952	1953	1951	1952	1953	1951	1952	1953
Western redcedar	21,013	11,792	4,616	134,040	151,829	172,225	37,218	54,100	14,710	192,271	217,721	191,551
Lodgepole pine	134,489	104,621	128,523	41	——	——	2,098	——	——	136,628	104,621	128,523
Western larch	54,789	56,591	41,198	56,222	63,323	33,967	15,321	32,847	15,080	126,332	152,761	90,245
Douglas-fir	5,897	8,981	2,793	3,038	8,625	723	1,181	1,443	——	10,166	19,049	3,516
Total	216,188	181,985	177,130	193,341	223,777	206,915	55,818	88,390	29,790	465,347	494,152	413,835
Percent	46.5	36.8	42.8	41.5	45.3	50.0	12.0	17.9	7.2	100.0	100.0	100.0

Source: Data collected by Rocky Mtn. Pole & Treating Assoc. and compiled by Intermountain Forest & Range Experiment Station.

Timber Volume Cut and Number of Operators, California, 1946-54

Year	Timber Volume Cut	Number of Operators*
1946	....	399
1947	3,185,995,000	790
1948	3,983,213,000	810
1949	3,795,252,000	813
1950	4,303,011,000	989
1951	4,984,288,000	1,052
1952	5,057,036,000	1,228
1953	5,990,088,000	1,487
1954	Not available	1,599

*Includes total number of registered operators extracting sawlogs, veneer logs, general split products, fuelwood, posts, piling, poles, pulpwood, etc.
Source: California Division of Forestry.

Poles Processed in Northern Rocky Mtn. Area From All Sources

NOTE: The number of poles processed as reported in the following table is considerably greater than that shown in the table "Pole Production in Northern Rocky Mountain Area." The number of poles processed is much greater due to shipments into the area from the West Coast of U. S. and from Canada.

Year	Western redcedar	Lodgepole pine	Western larch	Douglas-fir	Total
1947	448,544	375,545	252,205	91,134	167,428*
1948	384,837	142,490	103,693	43,231	674,251*
1949	521,847	186,262	143,888	58,606	910,603
1950	418,982	92,338	90,793	14,154	616,267
1951	283,171	136,628	138,852	39,662	598,313
1952	471,104	104,621	213,336	84,777	873,838
1953	443,570	128,818	90,246	13,218	675,852
Total	2,972,055	1,166,702	1,033,013	344,782	5,516,552

* Includes small % of Ponderosa pine.
Source: Data collected by Rocky Mtn. Pole & Treating Assoc. and compiled by Intermountain Forest & Range Experiment Station.

Southern Pine Stumpage Prices, 1953-54, for Forest Service Region 8
(All species of Southern Pine timber included together)

National Forests in State of:	1953 Total Vol. M Bd. Ft.	1954 Total Vol. M Bd. Ft.	Average Stumpage Prices—All Species				Total Stumpage Cost Per M Bd. Ft.			
			Appraised 1953	Bid 1953	Appraised 1954	Bid 1954	Low 1953	High 1953	Low 1954	High 1954
Alabama	13,614	21,610	24.29	26.90	22.23	26.75	12.00	36.60	18.38	31.16
Arkansas	53,034	76,758	38.67	42.11	32.01	36.13	8.47	57.12	15.96	47.30
Florida	4,413	8,385	17.95	26.12	17.04	22.08	20.05	32.40	15.00	27.53
Georgia	6,238	2,861	32.54	40.41	27.92	32.40	12.00	41.15	16.10	55.24
Louisiana	16,969	15,275	27.68	38.59	21.35	26.22	22.00	48.00	14.21	31.93
Mississippi	26,670	34,275	30.27	34.30	24.35	29.55	21.10	46.25	22.50	53.00
North Carolina	2,433	4,777	23.40	25.00	20.21	25.60	13.00	40.81	14.00	35.61
South Carolina	12,961	9,177	32.68	37.20	27.61	31.93	16.00	44.50	18.00	42.00
Tennessee	1,403	2,603	16.21	16.21	15.02	23.18	10.50	18.00	10.00	36.00
Texas	72,751	51,932	31.87	35.73	29.69	35.67	23.60	46.10	26.25	45.31
Total	210,486	227,053								

Source & Note: The above table was compiled by the Southern Pine Association, New Orleans, La., from data supplied by the U. S. Forest Service Regional office, Atlanta, Ga. Only those sales are included, in the tabulation, for which sufficient detailed information was available. THE LUMBERMAN is grateful to the Forestry Department of the Southern Pine Association for supplying this data.—The Editors.

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Comparison of Average Stumpage Prices, 1954, Forest Service Region 3

(Southern Rocky Mtn. Area of Arizona & New Mexico)

National Forest	Volume M Bd. Ft.	Species	Appraised Per M Bd. Ft.	Bid Per M Bd. Ft.
Arizona:				
Apache	6,320	Ponderosa Pine	7.50	7.50
	880	Douglas Fir	5.00	5.00
	1,200	White Fir	2.50	2.50
	44,170	*All	8.09	8.19
Coconino	93,500	*All	6.65	6.66
Kaibab	1,600	Ponderosa Pine	7.90	7.90
	3,000	*Pine	6.75	6.75
	6,200	*Ponderosa Pine–Douglas Fir	7.90	7.90
	2,100	*Engelmann Spruce–Blue Spruce	4.00	4.02
	1,700	White & Alpine Fir	2.00	2.02
Prescott	733	*All	8.33	9.38
	1,664	*Pine	8.50	9.50
Sitgreaves	16,350	*All	10.97	10.98
	4,815	*Pine	7.50	8.34
New Mexico:				
Carson	1,000	Ponderosa Pine	5.00	5.00
	1,200	*Pine	6.00	10.82
	5,000	*All	7.10	9.46
Cibola	5,400	*All	6.89	6.97
	12,044	*Pine	6.25	10.88
Gila	22,404	*All	7.00	7.00
Santa Fe	4,080	*Pine	7.75	7.75
	900	*Douglas Fir, Engelmann & Blue Spruce	3.00	3.00
	1,020	White Fir	2.50	2.50

*Individual species or volumes not available.
Source: U. S. Forest Service.

Comparison of Average Stumpage Prices, 1954, Forest Service Region 4

(Cover Intermountain area of Idaho, Wyoming, Utah)

National Forest	Volume M Board Ft.	Ponderosa Pine		Douglas Fir		Engelmann Spruce	
		Appraised	Bid	Appraised	Bid	Appraised	Bid
Ashley	5,465			4.63	5.08	5.85	5.90
Boise	106,027	15.47	18.41	1.25	1.26	5.61	5.61
Caribou	2,220			4.13	6.22	4.14	6.43
Dixie		6.66	6.33			1.75	4.25
Manti-LaSal	900	10.50	10.50				
Payette	45,740	14.68	16.29				
Salmon	1,000			4.00	4.00		
Sawtooth	5,198	11.22	11.22	4.10	4.14	10.40	10.40
Targhee	2,000			3.20	3.20		
Teton	2,470			3.35	3.35	3.43	3.43

Source: U. S. Forest Service

Origin of Waterborne Shipments of Lumber By the Various Districts—1954

District	Export	Domestic	Total
British Columbia	1,030,424,038	549,521,392	1,579,945,430
Puget Sound	65,623,422	219,797,470	283,420,892
Grays-Willapa Harbor	69,829,727	178,153,795	247,983,522
Columbia River	119,700,005	347,967,210	467,667,215
Coos Bay	195,969,528	600,816,041	796,785,569
California	30,950,294	83,738,692	114,688,986
Southern Oregon	6,977,326	107,487	7,084,813
TOTAL	1,517,474,340	1,980,102,087	3,497,576,427

Condensed Table of Lumber Shipments From Pacific Coast States & B. C. As Reported by the Pacific Lumber Inspection Bureau

Waterborne Shipments:	1951	1952	1953	1954
Foreign	1,713,401,097	1,344,650,091	1,333,427,618	1,517,474,340
Domestic	1,379,685,472	1,791,499,251	2,169,363,793	1,980,102,087
TOTAL	3,093,086,569	3,136,149,342	3,502,791,411	3,497,576,427

World Logging Reports

From New Zealand's Exotic Forests Come Logs Like These

Reported by NEW ZEALAND FOREST PRODUCTS, LTD.

• Chain saws and mechanical saws are almost universally used in New Zealand. Loading is by air tongs or crane and haulage is done mostly by road trucks or bush tramways. Ponds and rivers are not used for log removal.

Silviculture, is now receiving greater attention in this country both from private enterprise and the State.

The new Tasman Pulp and Paper Company is installing plant to produce up to 72 million board feet of timber annually. Logs will be cut from State forests.

The timber industry (including wood pulping) in New Zealand has risen from comparative obscurity to the fourth most important industry. Today over 7,000 people are employed in forest industries. At October, 1954, there were 794 sawmills operating in New Zealand producing approximately 600,000,000 board feet of timber.

New Zealand has approximately 15 million acres of forest land, of which roughly 60% is state forest land.

Generally, it is estimated that by 1956, provided the Tasman Pulp and Paper Company's project is completed as planned, the production from New Zealand's exotic pine forests will be as follows:-

Sawn Timber		350 million board feet
Pulp Products:		
Cardboard (Whakatane Board Mills)		30,000 tons
Wallboard (N.Z. Forest Products)		20,000 tons
Kraft Paper (N.Z. Forest Products)		25,000 tons
Kraft Pulp:		
N.Z.F.P.	45,000	
Tasman	45,000	90,000 tons
Newsprint—Tasman		75,000 tons

The left-hand photo above shows part of the 176,000 acres of exotic pine forests owned by NZ Forest Products. One of NZFP's International "Roadliner" trucks is at right, with a gross load of 23 tons; unladen weight is just under 6 tons. Laden trailer weight is 9 tons plus and unladen about 2½ T.

Burmese Forester Tells of Logging With Elephants

U. AUNG BAW, director of extractions (timber), State Timber Board of Burma, recently visited Pacific Car and Foundry Co., Renton, Wash.

U. Baw said teak trees are killed while standing and are then felled two years later when dried out and devoid of bark. Elephants are used almost exclusively in the transport of logs from the stump to the rivers for rafting. U. Baw said tractors are used almost solely for road building and trail blazing at this time but mechanized log handling methods are under consideration.

American Loggers Note

He pointed out that logging with elephants is slow and laborious but that from a cost standpoint elephants can't be beat. He said they can be trained in approximately 30 days for the job. They are retired when approximately 60 years old. He said that the food bill for an elephant is zero as they are hobbled and turned loose in the forest at night to forage for themselves.

The counterpart of an American cat-skinner is a Burmese man riding on the head of the elephant and directing him in the operation of transporting, cold-decking and rafting logs.

Logging in Brazil

• Mechanization of logging on a scale found in North American woodlands has yet to be seen in Brazil. However, some of the modern logging camps are using crawler tractors for logging and road building. The haul to the mill is either by truck or railroad. It is reported that a method of logging such as found in the U. S. is greatly needed to develop the forests of Brazil.

New "Heaven" for Lumbermen

• "Lumberman's Heaven" is the title given to Brazil. It has more timber than any country in the Americas except possibly Canada. But its lumber industry is less developed in proportion to timber resources than many countries in a less favorable position. There are roughly 1-billion acres of timberland in Brazil, including a variety of some of the most beautiful and most serviceable hardwoods in the world. Yet these woods are practically unknown in the U. S., although a few pioneer importers have introduced a few. Brazil's important Parana pine is shipped to many distant countries but it has found only a small but growing market in the U. S.

There has been a perennial lack of capital for investment in the Brazilian timber industry, thus resulting in failure to take advantage of the United States market. However, because of this slowness to develop, Brazil is in a very favorable position with its vast stands of virgin timber to some day become a major world producer.

The Brazilian-American Survey which brought the above information to light reports, "Lumber from Brazil, shipped to New York by sea, could be competitive in freight costs with lumber shipped from the Northwest by rail."

Unique German Boards

• An ingenious German technique for the production of "chip boards" which utilize small logs and wood waste is reported by the Department of Commerce.

Used primarily in furniture, the boards are made at the Johann Vohwinckel plant at Georgensgmuend in West Germany. The USDC report states, "The boards are made in three layers, the two outer layers being of especially fine chips to permit the application of stains, polishes or veneer to the semi-finished product." The wood waste makes up the center layer, while the outer layers are made from small logs.

The raw material is first soaked in warm water for 24 hours and then fed into a chipper. Then the chips are dried in a special dehydrator and next weighed and put into containers to be mixed with glue. The material is finally pressed in molds to form boards of the desired width and length.

These chipboards have a specific gravity of 37.5 lbs. per cu. foot. When they have been soaked for 30 minutes at 20° C, they swell 1 to 2%.

Financial

Forest Industries Securities, Year-end Reports, 1953-54

Reported by Pacific Northwest Co., 501 Exchange Bldg., Seattle, Wash.

	Year End - Nominal Quotations		Earned Per Share		Dividend Per Share†	
	1953	1954	1953	1954	1953	1954
American Forest Products Corp.	54½–OW	60 –OW	10.75		3.50	3.50
Atlas Plywood Corp.	8⅜–	12⅛–	1.76	.28	.15	Nil
British Columbia Forest Products	5¾–	9 – 9¾	.96	1.09	.40	.40
Calaveras Land & Timber Corp.	18 – 19½	23 – 25	3.59		2.00	3.00
Canadian Western Lumber	11¼– 12¼	13¾– 15½	.96		.37½	Nil
Cascades Plywood	23¼– 24¾	27 – 29	2.77	2.41	2.00	2.00
Central Coal & Coke Co. (Liq.)	36 – 39	34 – 37	.81	.82	1.00	4.00
Chicago Mill & Lumber Co.	16½– 17½	16½– 17¾	3.93	1.17	1.50	1.00*
Coos Bay Lumber Company	67 – 75	73 –OW	5.74		5.00	4.00*
Crossett Company CL "A" or "B"	15 17¾	21 – 24	1.73	1.80	Nil	.50
Crown Zellerbach Corp.	35 –	63¾–	3.48		1.65	1.95
Diamond Match Co.	33⅞–	52½–	3.30	4.35	2.00	2.00
Edward Hines Lumber Co.	25½–28¼	41 – 44	4.22		2.25	2.25
Georgia-Pacific Plywood	10 –	26½–	1.01	1.54	1.00	.25
Harbor Plywood Corp.	8⅝– 9½	14⅝– 15¾	.73		.60	.25
Keyes Fibre Co. Com.	25½– 27½	57 – 60	2.99	4.65	2.00	2.00
Kimberly Clark Corp.	24½–	40⅞–	2.62	2.72	1.20	1.35
Kirby Lumber Corp. Com.	30 – 33	36 – 39	1.40		1.00	Nil
Long-Bell Lumber Com.	15¾– 17	21⅝– 23¾	2.76		1.10	1.00
Longview Fibre Co. Com.	39½– 43	61 –	3.85	4.72	1.80	2.00
M & M Wood Working Co.	8⅛– 8¾	14½– 15	1.22		.45	.35
MacMillan Bloedel "B"	18½– 19¾	28¾– 29¾	2.19	2.46	.80	.80
Medford Corp., Com.	72 –OW	83 –OW	9.42		6.00	5.00
Minnesota & Ontario Paper Co.	29 – 30½	51¾– 55	4.42	4.72	2.00	2.00
Northern Redwood Lumber Co. Cap.	130 –140	144 –OW	23.28		10.00	10.00
Pacific Lumber Co. Capital Stock	127 –136	155 –OW	13.93		8.00	8.00
Pickering Lumber Co. Com.	22⅛– 23½	25¾– 27½	2.02		1.80	1.95
Plywood Inc., Com.	1⅜– 1¾	2½– 2⅞	.41	.21	Nil	Nil
Pope & Talbot Inc. Com.	10 – 10⅞	15¼– 16¾	1.28		.80	.80
Powell River Co. Ltd., Com.	26 – 28	45¼– 48	2.32		1.45	1.60
Puget Sound Pulp & Timber	30½– 32	50¼– 52	3.71	4.12	2.00	2.00
Rayonier, Inc.	25 – 25⅛	61½– 61⅞	4.72	5.12	1.50	1.75
Roddis Plywood, Com.	6¾– 7¼	9¾– 11	.92	1.20	.40	.40
Scott Paper Co. Com.	35 –	61⅜–		1.80	2.33	1.57½
Southwest Lumber Mills, Com.	7½– 8⅜	5¾– 6⅜	.30		Nil	Nil
Union Lumber Co. Com.	18¾– 20¾	23½– 25½	2.96		1.00	1.00
U. S. Plywood Corp. Com.	24⅜–	36⅜–	2.63		1.40	1.40
Weyerhaeuser Timber Co.	69 – 73	108 –115	5.92	5.71	2.50	3.00

†Adjusted where necessary. *Plus stock.

THE NATION'S FIRST TREE FARMERS

First in the Nation

Weyerhaeuser Timber Co.,
Clemons Tree Farm
(Montesano-Elma, Wash.) June 12, 1941

First in Western Pine Region

Weyerhaeuser Timber Co.,
Klamath Falls, Ore. ..... Sept. 24, 1942

First in South

E. N. McCall,
Brewton, Ala. (a farmer) .... May 4, 1942

T. R. Miller Mill Co.,
Brewton, Ala. (industrial) ... May 4, 1942
Alger Sullivan Lumber Co.,
Escambia County, Ala. ..... May 4, 1942
Alabama Power Co.,
Birmingham, Ala. ..... May 4, 1942
International Paper Co.,
Mobile, Ala. ..... May 4, 1942

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Shingles & Shakes

Red Cedar Shake and Shingle Mills in U. S.

As of Date	Number of Mills, Active & Idle	Machines Installed, Active & Idle
December, 1938 (Shingles Only)	342	
December, 1939 (Shingles Only)	377	
December, 1940	382	912
December, 1941	373	801
December, 1942†	252	652
December, 1943†	158	492
December, 1944†	159	498
December, 1945	185	516
December, 1946	239	553
December, 1947	303	594
December, 1948	285	590
December, 1949	280	583
December, 1950	269	590
December, 1951	244	559
December, 1952	223	517
December, 1953	185	468
December, 1954	Not Available	

*Idle mills are those which have temporarily suspended operations.
†Does not include machines inactive during the war.
Source: Census Bureau.

Shingle Production in B. C.

• Fifty-four shingle mills operated in the coast district of British Columbia in 1953, according to the provincial forest service.

In rated capacity the biggest was Capilano Timber Co. at Vancouver whose A and B mills operating two shifts had a production of 2000 squares a day.

Second in capacity was Mac Millan & Bloedel's Red Band mill near Vancouver with 1000 squares, with the company's Somass division mill at Port Alberni adding another 350 squares.

Some of the other major producers were Canadian Forest Products Huntting-Merritt Division, 700 squares; Canadian Western Lumber Co., 480; Bestwood Cedar Shingle Co., Barnett, 450; B. C. Forest Products, Hammond, 450; Northwest Cedar Products, No. 1 mill, 230; Northwest Cedar Products, Homalko Division, 400; Northern Timber Co., Fanny Bay, 400; Stave Lake Cedar Co., Dewdney, 350; Watson Cedar Products, New Westminster, 250; North Shore Shingles, Lynmour, 250; McNair Shingle Co., 350; Horton Cedar Mfg. Co., Victoria, 270; McCarter Shingle Co., Victoria, 275; Flavelle Cedar, Port Moody, 280.

Sawn Shingle Production, B. C.

	Squares		Squares
1940	3,301,108	1947	2,845,182
1941	3,727,145	1948	2,833,233
1942	3,250,825	1949	2,688,633
1943	2,118,258	1950	3,074,210
1944	2,301,408	1951	2,866,684
1945	2,330,276	1952	2,330,207
1946	2,349,656	1953	2,500,000

Source: B. C. Lumber & Shingle Mfrs. Assoc.

LUMBER OPERATIONS NEED CASH TO:

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Carry logs, lumber, veneers and plywood panels

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Make necessary repairs and buy modern equipment

needs

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Invest money in timber cutting contracts or long term timber purchases

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NEW YORK 16

Tree Farms

1949 WALLACE WHATLEY was 4 when he first posed with this pine seedling.

1952 BOY WAS 7, pine 4 in 1952. Tree is on plantation near Opelika, Ala.

1954 BOY WAS 10, pine 7 in 1954. First pulpwood thinning about 1959.

Tree Farms Are Here—To Stay!

Over 33 millions of acres in taxpaying "Tree Farms" say: Today Forestry Is Good Business

FOURTEEN YEARS in the life of a tree—or a forester—is not a long time. But, it's been long enough for the forest industries-sponsored American Tree Farm System to take root in the United States and spread to every corner of this tree-growing country.

The term Tree Farm—spelled with capital letters—was coined in 1941 when the Weyerhaeuser Timber Company launched a model forestry program on a large tract of cutover land in Grays Harbor county, Washington. Where more technical forestry terms had failed to rouse even a spark of interest, the words Tree Farm caught on immediately with the timber company's neighbors and the public.

In just 14 years the Tree Farm System has expanded to nearly 34,000,000 acres. Three and a half million acres were added during 1954. More woodland owners are growing trees as a crop than ever before in the nation's history.

UNDER THE INITIAL sponsorship of the organized lumber industry, the American Tree Farm System spread from Washington to other western states. About the same time, with the Southern Pine Association taking the lead, the System took root through Alabama, Arkansas, Texas, Mississippi and other parts of the "piney woods."

Requirements for certification include the landowner's demonstrated ability to protect his trees from fire, destructive grazing, diseases and insect damage. To quality as a tree farmer, a landowner had to have a plan for harvesting timber crops for use and for growing new crops of wood on the same land. Only taxpaying land is eligible for certification.

By the close of World War II the Tree Farm program had spread to 11 states with a total of 11,000,000 acres certified. By that time American Forest Products Industries—a non-profit educational and informational organization that represents all segments of the tree-growing and wood-processing industry—had assumed sponsorship of the program. In the next five years an additional 18 states joined the Tree Farm parade and certified tree-growing acreage passed the 22,000,000 mark, and by the end of 1953 AFPI had 4,878 tree farmers and 30,129,000 Tree Farm acres on its rolls.

While the System is and always has been a forest industry program, wood-using and timber-growing companies have been accepting increasing responsibilities for it during the past 20 months. In more than a dozen eastern and southern states forest industry committees have assumed the responsibility for Tree Farm sponsorship, including actual inspection and certification of eligible woodlands.

Condensed Progress Report

Date	No. States	No. Tree Farms	Total Acres, U.S.
Jan. 1, 1953	35	4209	27,672,228
Jan. 1, 1954	36	4878	30,129,256
Jan. 1, 1955	36	6063	33,692,964

WOODLAND OWNERS are encouraged to apply through these committees for Tree Farm certification. Qualified foresters—many of them employees of lumber or pulp and paper manufacturers—inspect the woodlands

concerned to determine whether or not they meet Tree Farm requirements.

Later the Tree Farm application, together with the inspecting forester's report, is submitted to the State Tree Farm committee for examination and final action. If approved, the owner of the woodland gets an official Tree Farm certificate and a sign to mark his property. From time to time the woodland is reinspected by foresters to be sure standards are maintained. Certification is withdrawn if the land changes hands or management standards decline.

During 1954 3,500,000 acres of well-managed woodlands were brought into the Tree Farm program. In Georgia alone more than a million and a half acres of timberland were certified, including many demonstration forests, owned by forest industries and leased to schools.

In Idaho more than 100 new tree farmers were added during the year. A substantial number of these were Grange members. The Kamiah (Idaho) Grange's Tree Farm efforts earned for it a national award for community service.

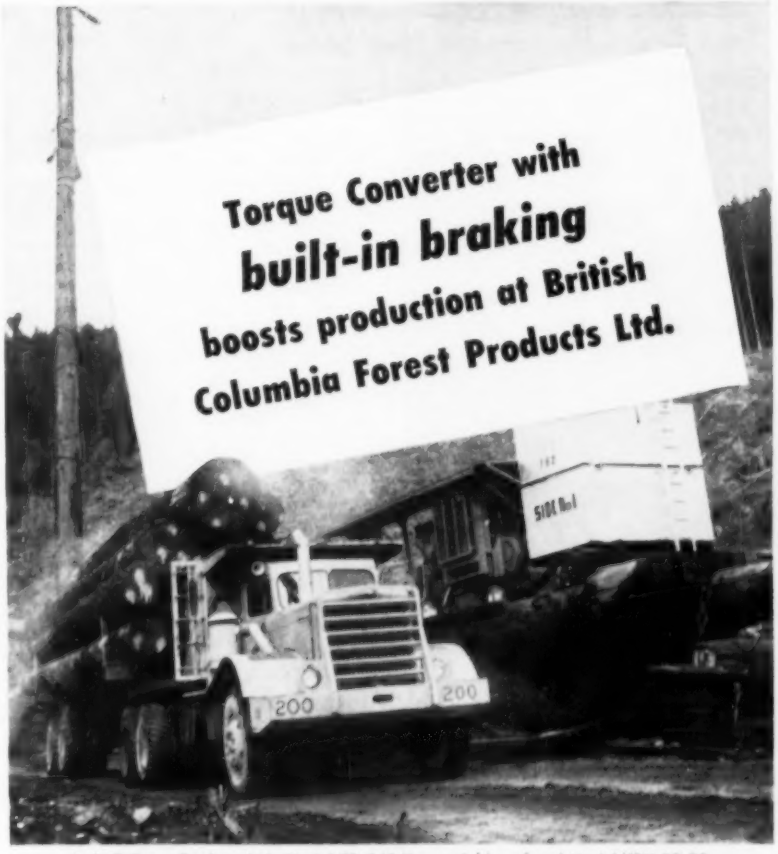
IN MAINE TWO FOREST industries—Diamond Match Co. and Scott Paper Co.—joined forces with a group of individual woodland owners to form the first Tree Farm Family group in the Northeast. Under a voluntary arrangement, the participating landowners receive management assistance and advice in return for the first opportunity to buy Tree Farm timber crops at prevailing market prices. A similar arrangement was worked out in north central Pennsylvania's oil country by a small lumber mill and neighboring tree farmers. The Tree Farm Family idea, pioneered by the A. DeWeese Lumber Co. in Mississippi and Nickey Brothers in Tennessee, is well established through the South.

During 1955 at least four more states—Kentucky, Connecticut, Illinois and Iowa—will launch Tree Farm programs. Wisconsin, which heretofore has limited its Tree Farms to industrial forests is now certifying well-managed farm-size woodlots as well.

CHIEF FORESTER James C. McClellan of AFPI, estimates there are 100,000,000 acres of well-managed, tax-paying forest land in the United States. "Eventually, we hope to bring all this crop-producing timberland into the American Tree Farm System," he says.

Not long ago an elderly farmer died in Oregon. The obituary published in his home town newspaper referred to the deceased as a "tree farmer" and listed the American Tree Farm System along with the fraternal affiliations.

Tree farming is here—and it's here to stay.



At B. C. Forest Products Ltd., Model CD-849 Kenworth (shown) and Model HDX-30-80 Hayes logging trucks work through Twin Disc Model DF Truck-Type Torque Converters. Write to Hydraulic Division, Rockford, Ill. today for Bulletin 501.

British Columbia Forest Products Ltd.—one of the largest, fastest-growing timber producers in Canada—has built a reputation for efficient operation . . . continually striving for better methods and maximum performance from powered equipment. For their newest logging trucks (3 Kenworths, 8 Hayes) they specified Twin Disc Model DF Truck-Type Torque Converters . . . for from thousands of hours' experience on yarders and loaders, they know how Twin Disc Torque Converters reduce downtime and maintenance by eliminating engine lugging and shock-loading.

At the B. C. Forest Products Ltd. Harris Creek operation, loads go up to 20,000 board feet; grades are up to 20%, and footing varies continually from changing weather. But with Twin Disc *built-in* Braking, drivers are coming down under full-load in second with practically *no* truck pedal-braking; with trucks under *complete* control; and *without* shock-loading transmissions. Through the powerful torque multiplication (up-to-6:1), the Cummins Diesels are pulling away more easily under load at near-governed rpm than they did *formerly*, with *mechanical* drive, at 1200 rpm. And the Model DF's Lock-Out Drive feature permits maximum economy on long, continued grades.

Throughout the logging industry, Twin Disc Truck-Type Torque Converters are *putting more horsepower to work*, and *providing outstanding savings on tires, brakes, axles, engines and final drives.*

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Tree Farms

Tree Farm Movement Has Solid Growth in B. C.

THE TREE FARM movement has made real headway in Canada during the past few years and it is now on solid ground. In the eastern provinces more than 325,000 acres have been certified as tree farms and in British Columbia, where progress was a little slower at first owing to the necessity to get enabling legislation passed, there are now more than 20 individual tree farms representing an acreage of nearly 190,000.

The tree farm idea has been sponsored in Canada by the Canadian Forestry Association, which has carried out an effective educational campaign not only to induce owners of forest lands to register their property as tree farms but to impress the public with the enlightened conservation motive behind the whole project.

MEMBERS OF CANADIAN Forestry Association claim that the idea really originated in Ontario, at Sault Ste Marie, several years before and that the first Pacific coast tree farms.

The tree farm movement was first established on a formal basis in Canada in 1953, and in the East, pulp and paper companies have taken a prominent part in its promotion, recognizing that tree farms and a new concept of private forestry may greatly extend their pulpwood supplies.

MANY OF THE NEW members initially were those who had been running their stands on a sound basis for years. But probably about 50% of the applications coming in now are from people who had previously given little thought to forest management. The established farms, like the 3,000 acre Harrington Tree Farm, operated by Canadian International Paper at Harrington, Quebec, are serving as models for others to copy. Each new tree farmer must follow the aims of the Forestry Association, namely to maintain woodlands for growing crops; to protect woods adequately, and to make sure cutting practices will mean future forest crops.

A report from the Ontario Royal Commission on Forestry estimates that woodlots of Ontario are presently producing wood at the rate of 25 cubic feet per acre per year. Under proper management this figure could be raised to at least 50 cubic feet per acre per year. The report also noted the fact that some of the best forests in the province were growing at the rate of 100 cubic feet per acre per year.

IN B. C. TREE farming has made rapid strides. Its 22 tree farms run from 50 acres, to the Elk Falls Co. tract of 61,116 acres. Other large holdings are operated by the Greater Victoria Water district, 32,565 acres; Western Forest Industries, 29,534 acres, and MacMillan and Bloedel Ltd., with 13,787 acres. The complete list at February 1 was: University of B.C., 9,774 acres; T. G. Wright, Witherby, 324 acres; A. E. Marc, 155 acres; Totem Pole & Piling Ltd., Dome Creek, 320 acres; B.C. Forest Products, Cowichan Lake, 4,420 acres; Canadian Forest Products, Sechelt and Nimpkish, 13,184 acres; F. D. Mulholland, Morning Star, 471 acres; W. L. Keate, Port Neville, 50 acres; H. R. Nickson, Rexwood, 200 acres; Powell River Co., Gulf Islands, 9,719 acres; McMahon Lumber Company, 125 acres; Sooke Lake Lumber, Leech River, 8,542 acres; G. E. Bernard, 3,502 acres; Howard Tree Farm, 180 acres; Elton Anderson, Cortes Tree Farm, 510 acres; Western Plywoods, Cariboo, 160 acres, and G. W. Sidders, Stave Gardens, 92 acres.

While Canada is behind other countries in the tree farming business, the enthusiasm and potential there seems to assure a great future.

RIGHT HAND SEVEN-FOOT BAND MILL

shown with Motorized Top Saw Guide and Motorized Wheel Lift, as installed in the hardwood plant of Calion Lumber Co., Inc., Calion, Arkansas. This Band Mill or Wheland's 54", 6' or 8' mills can be furnished either right or left hand.

• Patented Vertical Tension Lever Spring Loaded For Up To 20,000 Pounds Strain • Easy On Saws • Low Center of Gravity • Sturdy Structural Steel Bed • Heavy Structural Steel Housing • Dust Proof Construction Throughout • Self Aligning Double Tapered Roller Bearings • Short Bearing Centers • Large Diameter Shafts • Doubly Supported Top Saw Guide • Accurately Balanced Wheels • Smooth Running • Fast Sawing • Live Lumber Roll

BULLETIN ON REQUEST

THE WHELAND COMPANY

CHATTANOOGA, TENNESSEE — PHONE 5-3181

Manufacturers of Complete Sawmills and Auxiliary Machinery

U. S. Tree Farm Progress As of Feb. 1, 1955, Showing Number and Acreage by State & Region

STATE	NO. OF TREE FARMS 2/1/54	NO. OF TREE FARMS 2/1/55	TOTAL ACREAGE 2/1/54	TOTAL ACREAGE 2/1/55
Alabama	499	480	2,757,769	2,788,980
Arkansas	274	404	3,047,592	3,136,948
Florida	96	130	2,393,173	2,974,303
Georgia	102	154	1,065,186	2,628,745
Louisiana	112	141	1,578,774	1,707,725
Mississippi	399	520	1,107,403	1,208,388
North Carolina	88	106	654,912	925,308
South Carolina	123	148	1,145,599	1,203,633
Tennessee	314	327	420,648	484,107
Texas	532	652	3,352,345	3,430,702
Virginia	120	123	448,006	450,056
TOTAL SOUTH	2,609	3,185	17,971,407	20,938,895
California (Redwood Region)	20	29	143,176	218,385
TOTAL REDWOOD TREE FARMS	20	29	143,176	218,385
Oregon (Western)	74	99	1,665,228	1,757,071
Washington (Western)	129	147	2,601,405	2,658,359
TOTAL WEST COAST TREE FARMS	203	246	4,266,633	4,415,430
Arizona	2	3	325	875
California—W. Pine	138	155	1,489,712	1,592,576
Colorado	4	5	77,580	77,700
Idaho	138	297	720,396	832,474
Montana	48	51	958,955	959,343
Nevada	1	1	12,984	12,984
New Mexico	2	2	80,900	80,900
Oregon—W. Pine	44	53	1,336,731	1,474,317
South Dakota	1	1	17,260	20,460
Washington	80	83	592,784	601,447
Wyoming	1	1	40,557	40,557
TOTAL WESTERN PINE TREE FARMS	459	652	5,328,184	5,693,633
Michigan	331	359	676,558	675,069
Minnesota	315	376	355,469	421,871
Wisconsin	12	12	723,643	723,643
TOTAL LAKE STATES	658	747	1,755,870	1,820,583

STATE	NO. OF TREE FARMS 2/1/54	NO. OF TREE FARMS 2/1/55	TOTAL ACREAGE 2/1/54	TOTAL ACREAGE 2/1/55
Missouri	41	48	101,086	102,019
Ohio	303	343	81,706	85,332
TOTAL CENTRAL STATES	344	391	182,792	187,351
North Dakota	98	99	38,290	38,301
South Dakota	60	86	1,670	1,879
TOTAL PLAINS	158	185	39,960	40,180
Maine	39	79	116,941	122,484
Maryland	9	11	2,882	3,508
Massachusetts	42	58	33,403	35,798
New Hampshire	118	136	96,007	101,120
New Jersey	17	17	9,971	9,971
Pennsylvania	174	262	142,955	201,720
Rhode Island	29	34	5,179	5,775
West Virginia	57	62	167,946	168,680
TOTAL EASTERN STATES	485	659	575,284	649,056
TOTAL FOR 36 STATES	4,936	6,094	30,263,307	33,963,513

TOTAL TREE FARMS 2-1-53: 4,241; ACREAGE: 27,838,077

Source: American Forest Products Industries.

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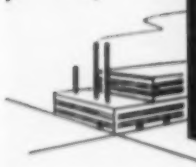

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High Levels Maintained in 1954

(Continued from page 62)

of the plywood business, including jobbers and dealers, in mid-year to the development of 50 'Golden Ideas' for better building with fir plywood from the drawing boards of five of the nation's outstanding architects."

Difford said the promotion has already "caught fire in the trade" and that "the industry got off to a running start" with the biggest backlog of orders on record—536 million feet—on the books.

SALVAGE ACTIVITIES included unparalleled efforts to cut and log timber killed or threatened by insects. Large-scale activities of this character were underway throughout the Bitterroot Range, the Rocky Mountains and various other areas of the pine region. In the Douglas fir region, salvage logging assumed large proportions. A notable example was in the old Yacolt burn area in Southwestern Washington where a beginning has been made in harvesting material once thought lost forever.

Great progress was made in combatting insect infestations but at great joint effort of state, federal and private interests. It has been estimated that as much as $6,000,000 could well be spent in 1955 in further prevention activities.

TREMENDOUS PROGRESS was made in 1954 in the installation of barking and chipping facilities at sawmills. This is the most notable trend and development now taking place in the American sawmill industry. The barking developments in the west and south were presented in great detail in the August and December issues of THE LUMBERMAN. The widespread interest in this subject was indicated by the literally hundreds of requests for copies of these issues.

HARDBOARD PRODUCTION in America increased in 1954 reaching a total of over 700,000,000 sq. ft. of all thicknesses. By hardboard we here mean all types of what may be termed pure hardboard as well as particleboards, chipboards, flakeboards and other types. Technically there is a great difference in these boards, although up to now the average consumer considers all types hardboards. Some clarification in terminology is one of the problems of this new industry, which is now off to a good start and which promises to expand rapidly.

WOODEN PALLETS. Elsewhere in this issue of THE LUMBERMAN is the first article ever written on the Wooden Pallet Industry. This industry, mentioned in the Stanford-Weyerhaeuser report, although young, is already a $100,000,000 industry and in the words of one authority "the fastest growing segments of the forest industry." It will be well for lumbermen everywhere to take a look at this little-known industry by carefully reading the pages in this issue devoted to it.

A tremendous amount of first-hand, vitally important, factual and statistical information will be found between the two covers of this ANNUAL REVIEW NUMBER. Great pains have been taken to make it as useful as possible.

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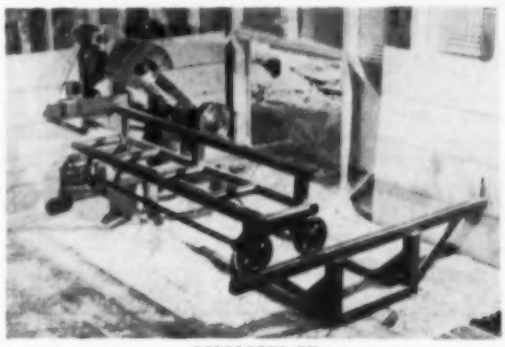

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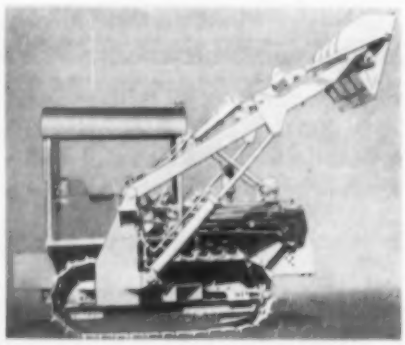

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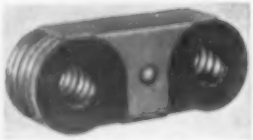

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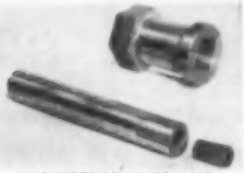

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Texas Company, The, Seattle, Portland, San Francisco
Tide Water Associated Oil Co., San Francisco, Calif., Los Angeles, Calif., Portland, Ore., Seattle, Wash.
Union Oil Co., Los Angeles, San Francisco, Portland, Seattle

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Evinrude Motors, Milwaukee, Wisconsin
Johnson Motors, Waukegan, Ill.

PAINTS
Gorton Co., The, Portland
Moore Dry Kiln Co., Vancouver, B. C.; Brampton, Ont.; Jacksonville, Florida; North Portland, Oregon

PIKE POLES—ALUMINUM
Alloy Welding & Fabricating Co., Portland
American Logging Tool Corp., Seattle, Wash., Portland, Ore., San Francisco, Calif., Los Angeles, Calif.

PIPE, TANKS, STACKS
Federal Pipe & Tank Co., Seattle
Seattle Boiler Works, Seattle, Wash.

PLANING MILL AND WOODWORKING MACHINERY
General Machinery Co., Portland
Greenlee Tool Co., Rockford, Ill.
Irvington Machine Works, Portland, Ore.
Mereen-Johnson Machine Co., Minneapolis, Minn.
Newman Machine Co., Greensboro, N. C.
Stetson-Ross Mach. Works, Seattle.

PLANT DESIGN AND CONSTRUCTION
W. H. Rambo, Portland, Ore.

PLYWOOD AND VENEER MACHINERY AND SUPPLIES
Coe Mfg. Co., Painesville, Ohio; Portland, Ore.
Columbia Div. of The Lodge & Shipley Co., Columbia Rubber Mills, Portland, Ore.
Heyer Sales & Engineering Co., Tacoma, Wash.
Hamilton, Ohio
Mereen-Johnson Machine Co., Minneapolis, Minn.
Moore Dry Kiln Co., Vancouver, B. C., Brampton, Ont., Jacksonville, Fla., North Portland, Ore.
Reichhold Chemicals, Inc., New York City, N. Y.

Williams, White & Co., Moline and Chicago, Ill.; Seattle
Yates-American Machine Co., Beloit, Wis.

POWER BRAKES
Roberts Motor Co., Portland, Ore.
Westinghouse Pacific Coast Brake Co., San Francisco, Los Angeles, Portland, Seattle

POWER DRIVES
The Oilgear Co., Milwaukee, Wisc., Portland, Ore., Los Angeles, Calif., Cleveland, Ohio, Detroit, Mich.

POWER PLANT BRICK WORK
F. E. Balden & Co., Portland

POWER SAWS
Atkins Saw Div., Borg-Warner Corp. Indianapolis, Seattle, Portland, San Francisco
Henry Disston & Sons, Seattle, Portland, San Francisco
Homelite Corp., Port Chester, N.Y., Seattle Wash.
McCulloch Motors Co., Los Angeles, Calif
Oregon Saw Chain Mfg. Corp., Portland
Zidell Machinery & Supply Co., Portland, Ore

RADIO EQUIPMENT MANUFACTURERS
General Electric Company, Electronics Dept Syracuse, N. Y.; San Francisco, Portland Seattle

RAILWAY EQUIPMENT
Baldwin-Lima-Hamilton, Lima, Ohio
Guy W. Conner, Inc., Portland, Ore.

REFUSE BURNERS
Archer Blower & Pipe Co., Portland, Ore.
C & D Welding Co., Redding, Calif.
Rees Blowpipe Mfg. Co., San Francisco, Los Angeles
Seattle Boiler Works, Seattle

RUBBER SPECIALTIES
American Rubber Mfg. Co., Oakland, Calif.; Portland, Ore.
Columbia Rubber Mills, Portland, Ore.
Gates Rubber Co., Denver, Colo.
Scougal Rubber Mfg. Co., Seattle
U. S. Rubber Co., New York, N.Y., Portland, Ore., Seattle, Wash., Los Angeles, Calif.

SAFETY HATS
E. D. Bullard Co., San Francisco, Calif.

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Chapman Chemical Co., Memphis, Tenn.; Portland, Ore.
Dow Chemical Co., Midland, Mich.
E. I. DuPont de Nemours & Co., Inc. (Grasselli Chemical Dept.) Seattle, Portland, ping Div., Chicago, Ill.
R. T. Vanderbilt Co., New York City; Portland, Ore.
Sapstain Spraying Machines; Keystone Machine Works, Roseburg, Ore.

SAW FRICTION GUIDES
Champion Friction Co., Eugene, Ore.

SAWS, KNIVES AND CUTTERHEADS
Atkins Saw Div., Seattle, Portland, San Francisco
Banta Saw Works, Redding, Calif.
R. Hoe & Co., Inc., New York, N. Y., Portland, Ore., Seattle, Wash., San Francisco, Calif.
Jones & Orth Cutterhead Co., Seattle, San Francisco
Ohio Knife Company, Seattle, Portland, Oakland, Cincinnati, Ohio
Pacific Saw & Knife Co., Portland
Shortt Saw & Knife Company, Tacoma, Wash.
Simonds Saw & Steel Co., Fitchburg, Mass.; Seattle, Portland, San Francisco
Spear & Jackson, Ltd., Vancouver, B.C.

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Kliever Machine Shop, Medford, Ore.

SAWMILL ERECTION
Ward, M. A. Construction Co., Eugene, Ore.

SAWMILL MACHINERY
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Armstrong Manufacturing Co., Portland, Ore.
Bader & Carroll, Portland
Banta Saw Works, Redding, Calif.
Corinth Machinery Co., Corinth, Miss.

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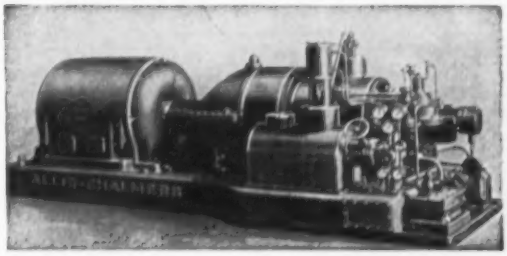

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General Machinery Co., Portland
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Johnson Engineering Works, I. W., Tacoma, Wash.
Keystone Machine Works, Roseburg, Ore.
Kimwood Machine Co., Cottage Grove, Ore.
Klamath Iron Works, Klamath Falls, Ore.
Klamath Machine & Locomotive Works, Klamath Falls
Mater Machine Works, Corvallis
McDonough Mfg. Co., Eau Claire, Wis.
Mereen-Johnson Machine Co., Minneapolis
Mill Engineering and Supply Co., Seattle
Munnell & Sherrill Inc., Portland, Ore.
Newman Machine Co., Greensboro, N. C.
Northwest Marine Iron Works, Portland
Olympia Supply Co., Olympia, Wash.
Peters Co., The, Portland
Portland Machinery Co., Portland
Prineville Machine & Supply Co., Prineville, Oregon
Salem Equipment & Supply Co., Salem, Ore.
Sel-Set Machinery Corp., Salem, Ore.
Soule Steam Feed Works, Meridian, Miss.
Star Machinery Co., Seattle, Spokane, Portland
Sumner Iron Works, Everett
Superior Mills, Inc. Dallas, Oregon
Ward Construction Co., M. A., Eugene, Ore.
Western Steel & Supply Co., Dallas, Ore.
Wheland Co., The, Chattanooga, Tenn.; Portland
Zidell Machine & Supply Co., Portland, Ore.

SAW SHARPENING MACHINERY
Armstrong Manufacturing Co., Portland, Ore.
Banta Saw Works, Redding, Calif.
Hanchett Mfg. Co., Big Rapids, Mich., Portland, Ore.
Neilsen's Saw & Supply, Winston, Ore.

SETWORKS—Pre-determining
Sel-Set Machinery Corp., Salem, Ore.
Salem Equipment & Supply, Salem, Ore.
Mater Machine Works, Corvalis, Ore.
I. W. Johnson Engineering Co., Tacoma, Wash.

SIDE HEAD GRINDERS
Shortt Saw & Knife Company, Tacoma, Wash.

SPARK ARRESTERS AND ARRESTER CLOTH
American Sheet Metal Works, Portland
Roebling's, John A. Sons Co., Trenton, N. J.; San Francisco, Portland, Seattle

SPRINGS—ALL KINDS
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Signode Steel Strapping Co., Spokane, Seattle, Portland, San Francisco and Los Angeles
United States Steel Co., Gerrard Steel Strapping Div., Chicago, Ill.

TIRES AND RECAP
Goodrich Co., B. F., Akron, Ohio
Goodyear Tire & Rubber Co., Akron
U. S. Rubber Co., Truck Tire Div., New York, N. Y.

TORQUE CONVERTERS
Twin Disc Clutch Co., Seattle, Portland, Racine, Wis.

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Caterpillar Tractor Co., Peoria, Ill.; Seattle, San Leandro, San Francisco, Portland, Spokane
Collins Machinery Co., Seattle
Howard-Cooper Corp., Portland, Seattle
Hyster Co., Portland
International Harvester Co., Chicago
Oliver Corp., Cleveland Tractor Div., Seattle, Portland, San Francisco
Tulsa Winch, Div. of Vickers, Inc., Tulsa, Oklahoma
Wood Tractor Co., Portland

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Trailmobile Company, The Berkeley, Calif.
Truck & Industrial Equipment Co., Portland, Ore.
Tulsa Winch, Div. of Vickers, Inc., Tulsa, Oklahoma
White Motor Co., Seattle, Portland, San Francisco

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Timken-Detroit Axle Co., Detroit

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Meeker Valve Co., Dallas, Oregon
Russ Chamberlain Co., Portland, Ore.

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E. I. DuPont de Nemours & Co., Inc., CMU Division, Wilmington, Del.

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Industrial Air Products Co., Portland

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Bethlehem Steel Co., San Francisco, Portland, Seattle
Broderick & Bascom Rope Co., Seattle, Portland, San Francisco, Los Angeles, Calif.
Edwards Company, E. H., San Francisco, Los Angeles, Portland, Seattle
Leschen Wire Rope Div. H. K. Porter Co. Inc., Seattle, Portland, San Francisco. Angeles, Portland, Seattle
Macwhyte Co., Kenosha, Wis.; Seattle, Portland, San Francisco, Los Angeles
Roebling's Sons Co., John A., Seattle, Portland
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Ilwaco Boat Works, Ilwaco, Wash.

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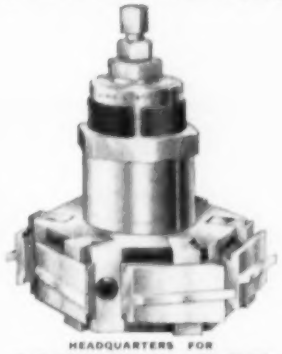

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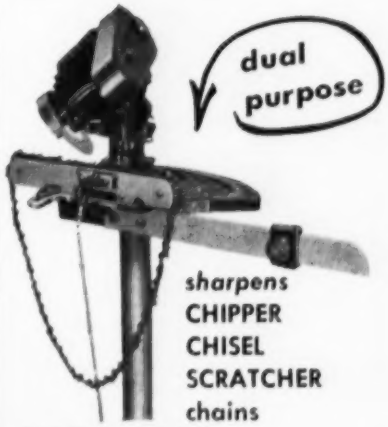

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33,000 Ft.	(5000 Ft. Reels) 5/8x1" Marlin Clad Durable Wire Rope	.76	.33
4,000 Ft.	1⅛" x 1½" Marlin Clad Durable Wire Rope	1.47	.65
2,000 Ft.	1¼ x 1⅝" Marlin Clad Durable Wire Rope	1.69	.75
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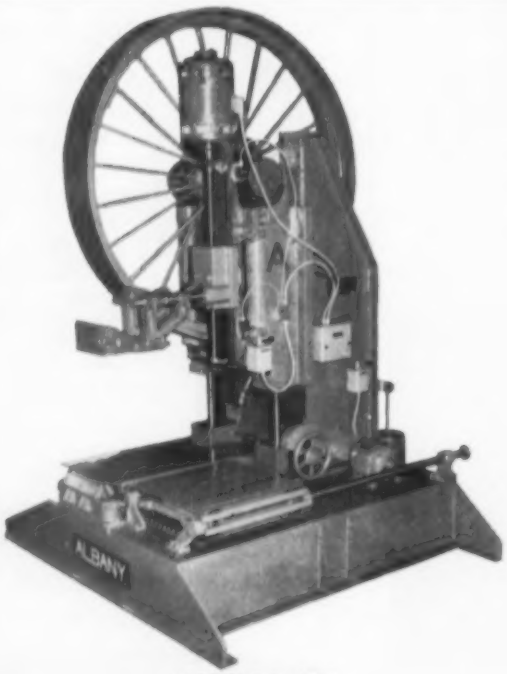

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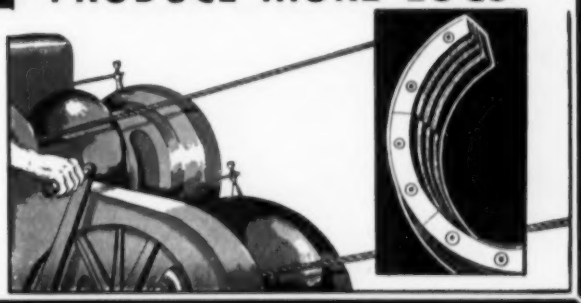

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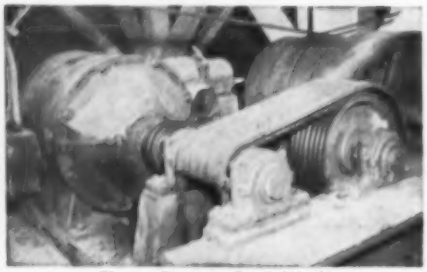

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STAR VALUES—IN STOCK

PLANERS—MATCHERS—MOULDERS

New—No. 8-B x 4 x 14" planer, matcher and moulder, 75 FPM, 4-knife

New—No. 500 Newman 6 x 14" planer and matcher, 200 FPM, 6-knife

New—No. 512 Newman 8 x 16" planer and matcher, 325 FPM, 8-knife

New—No. 55 Newman feed table

Used—C4A Yates 8 x 4" moulder

Used—No. 10 Berlin 24 x 10" planer and matcher

Used—No. 22 American 12" sticker

Used—American No. 77A, model 5 6" x 15" planer and matcher, 8-knife with feed table

FILING ROOM EQUIPMENT

New—GK Hanchett 38" knife grinder

Used—No. 2 Armstrong band saw sharpener

New—No. 7 Newman side head grinder, bench type

Nek—G-16 Newman side head grinder, pedestal type

New—G232 Newman hydraulic knife grinder

COMPRESSORS

Used—15 HP DeVilbiss air cooled

Used—50 HP Ingersoll-Rand air cooled, direct connected, 220 CFM

Used—Model ERI Ingersoll-Rand 9 x 8" water cooled, 110 CFM

Unused Smith water cooled, bare, 110 CFM, special price

Unused M-50 Worthington air cooled, 231 CFM, special price

BAND & CIRCULAR SAW MILLS

New—No. 4 Star mills

New—54" McDonough band mill

New—American Porta-Mill

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Used—No. B-5 Yates 36 x 8" single surfacer, 20 HP

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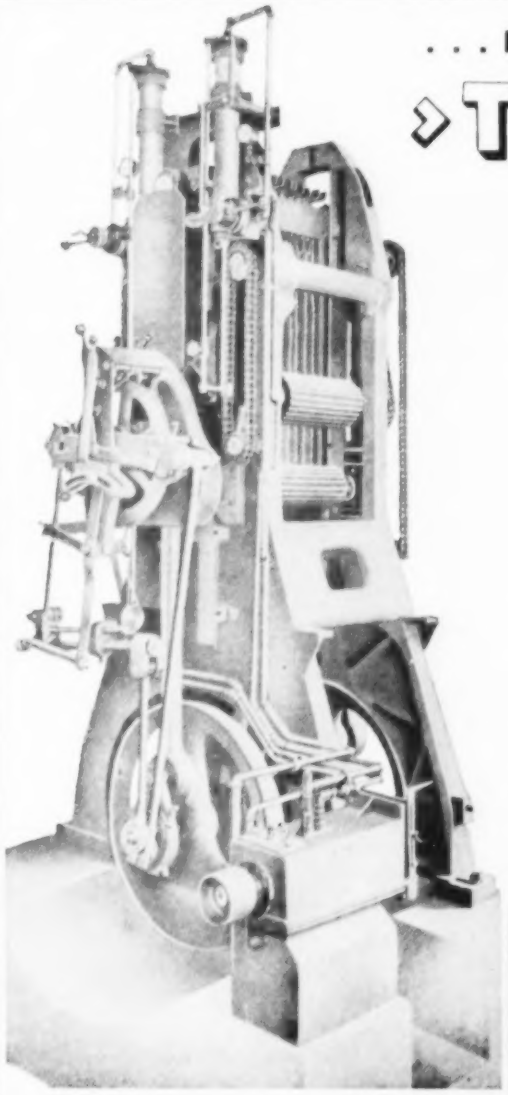

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